things I have written about elsewhere #20240122

The SFO Museum Aviation Collection Website Shoebox

The SFO Museum Aviation Collection Website Shoebox

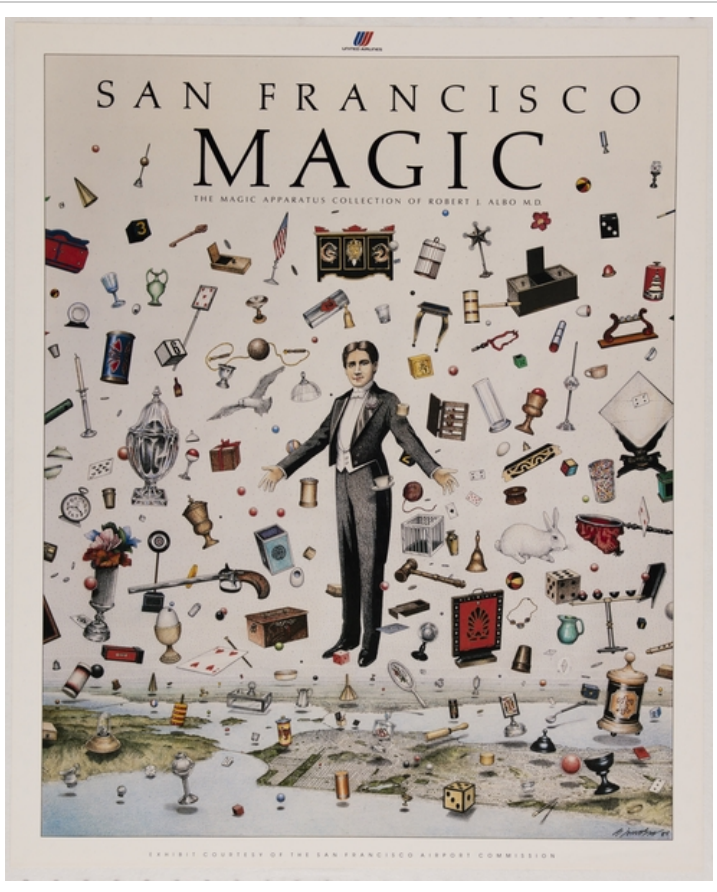
Photograph: San Francisco International Airport (SFO), Terminal Building, Pan American World Airways, Boeing 707-321CF Advanced Jet Clipper Titian. Photograph. Gift of the William Hough Collection, SFO Museum Collection. ***2009.108.032***

This was **originally published on the SFO Museum Mills Field weblog** `https://millsfield.sfomuseum.org/blog/2024/01/22/shoebox/` , in January 2024.

This is a blog post about something that's been hiding in plain sight on the **SFO Museum Aviation Collection website** `https://collection.sfomuseum.org` for over a month now: The ability to save collection objects to a personal "shoebox". If that sounds like a simple bookmarking system limited to items in the SFO Museum collection that's because it is. For now. The shoebox and the introduction of user accounts are the first steps, the first building blocks, towards developing more sophisticated

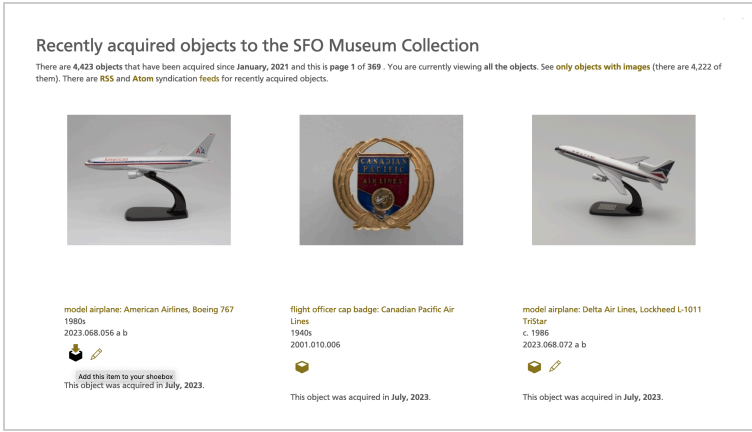
functionality and applications for the museum and its collection.

Step one are user accounts which allow the collection website to distinguish one person from another. Thet SFO Museum Aviation Collection website uses light-weight user accounts that only require an email address and no other personal information to sign in. After you enter your email address we'll send you a "magic link" that will log you in to the website. That's it. Your email address will not be used for any other purposes and we won't share it with any third parties. User accounts are governed by the SFO Museum **Terms of Service** `https://auth.sfomuseum.org/tos/` and **Community Guidelines** `https://auth.sfomuseum.org/tos/guidelines/` documents.

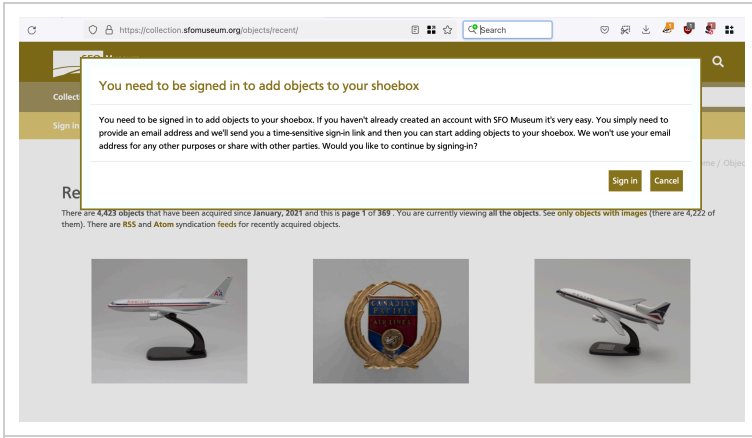

SAN FRANCISCO
MAGIC
THE MAGIC APPARATUS COLLECTION OF ROBERT J. ALBO M.D.
EXHIBIT COURTESY OF THE SAN FRANCISCO AIRPORT COMMISSION

Exhibition poster: San Francisco Airport Commission, San Francisco Magic. Paper, ink. Transfer from San Francisco International Airport, SFO Museum Collection. ***2017.079.018***

Step two is the "shoebox" or, more specifically, the ability to save something related to the SFO Museum Aviation Collection to your account. The easiest thing to start with are individual objects so that's what we've done. To save an object to your shoebox click on the shoebox icon (which is really just a box icon because there aren't enough pixels to represent shoes with any kind of fidelity) located underneath an object's title.


Recently acquired objects to the SFO Museum Collection
There are 4,423 objects that have been acquired since January, 2021 and this is page 1 of 369 . You are currently viewing all the objects. See only objects with images (there are 4,222 of them). There are RSS and Atom syndication feeds for recently acquired objects.
model airplane: American Airlines, Boeing 767
1980s
2023.068.056 a b
Add this item to your shoebox
This object was acquired in July, 2023.
flight officer cap badge: Canadian Pacific Air Lines
1940s
2001.010.006
This object was acquired in July, 2023.
model airplane: Delta Air Lines, Lockheed L-1011 TriStar
c. 1986
2023.068.072 a b
This object was acquired in July, 2023.

The shoebox icon looks like this: If an object is already in your shoebox then the same icon will appear but it will be black instead of gold, like this:

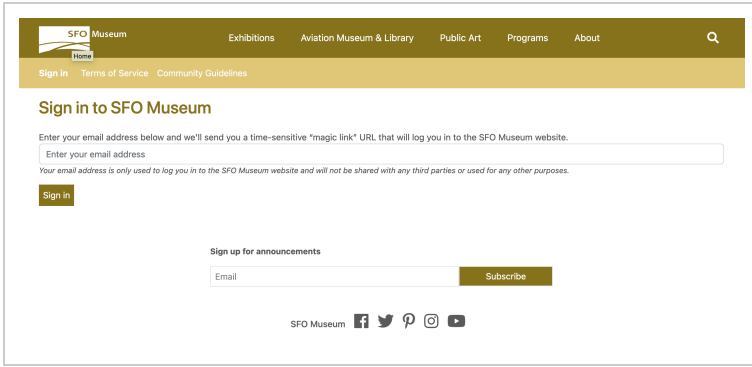

https://collection.sfomuseum.org/objects/recent/
Search
You need to be signed in to add objects to your shoebox
You need to be signed in to add objects to your shoebox. If you haven't already created an account with SFO Museum it's very easy. You simply need to provide an email address and we'll send you a time-sensitive sign-in link and then you can start adding objects to your shoebox. We won't use your email address for any other purposes or share with other parties. Would you like to continue by signing-in?
Sign in
Cancel
There are 4,423 objects that have been acquired since January, 2021 and this is page 1 of 369 . You are currently viewing all the objects. See only objects with images (there are 4,222 of them). There are RSS and Atom syndication feeds for recently acquired objects.

If you are logged in that's all you need to do. The object will be saved your shoebox in the background and you can view it, along

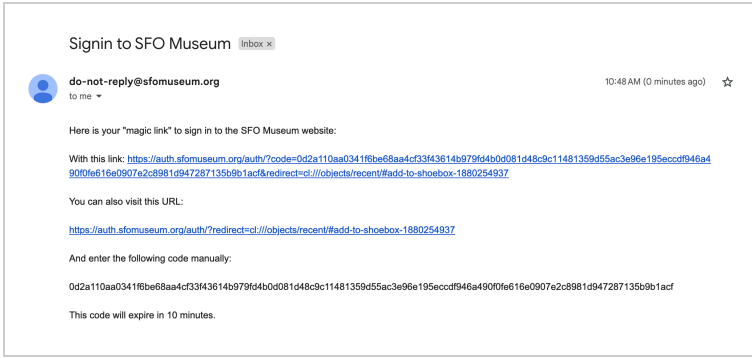
with all the other things you've collected, at:

https://collection.sfomuseum.org/you/shoebox/

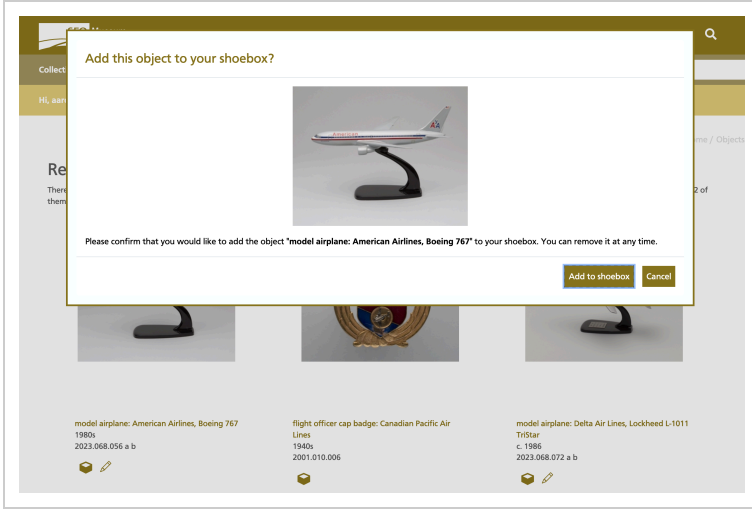
If you are not already logged in then you'll be presented with a modal dialog prompting you to login. Clicking the `Sign in` button will take you to the **https://auth.sfomuseum.org** `https://auth.sfomuseum.org` website where you'll be asked to enter your email address.


SFO Museum
Home
Exhibitions
Aviation Museum & Library
Public Art
Programs
About
Sign in
Terms of Service
Community Guidelines
Sign in to SFO Museum
Enter your email address below and we'll send you a time-sensitive *magic link* URL that will log you in to the SFO Museum website.
Enter your email address
Your email address is only used to log you in to the SFO Museum website and will not be shared with any third parties or used for any other purposes.
Sign in
Sign up for announcements
Email
Subscribe
SFO Museum

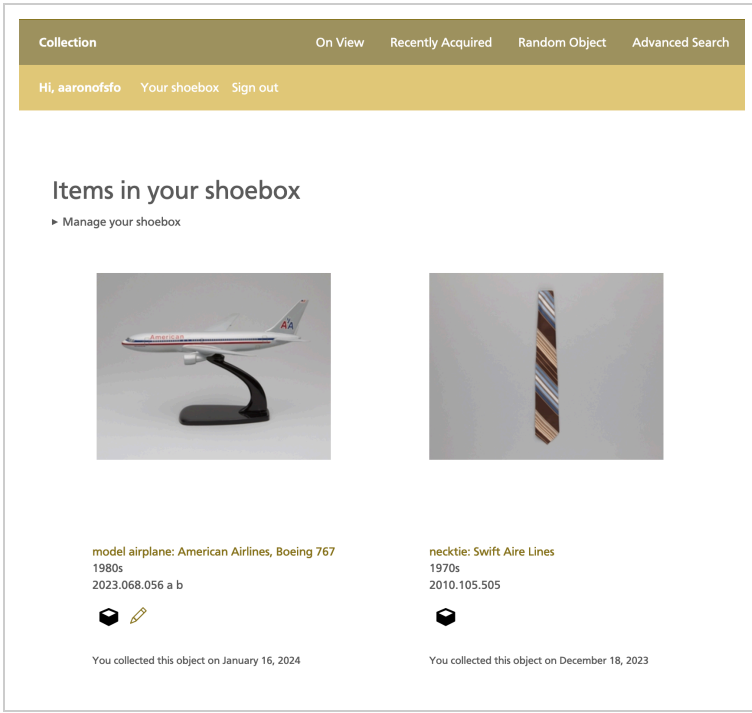
As mentioned above your email address will not be used for any other purpose than signing you in to the collection website and will not be shared with any third parties. After you've submitted your email address you will receive an email message from `do-not-reply@sfomuseum.org` containing a "magic link" with a time-sensitive access code that will sign you in to the SFO Museum collection website. You can either click on that link or enter the code manually on the auth.sfomuseum.org website. Here's an example of what one of those email messages will look like:


Signin to SFO Museum
Inbox ×
do-not-reply@sfomuseum.org
to me
10:48 AM (0 minutes ago)
Here is your "magic link" to sign in to the SFO Museum website:
With this link: https://auth.sfomuseum.org/auth/?code=0d2a110aa0341f6be68aa4cf33f43614b979fd4b0d081d48c9c11481359d55ac3e96e195eccdf946a490f0fe616e0907e2c8981d947287135b9b1acf&redirect=cl:///objects/recent/#add-to-shoebox-1880254937
You can also visit this URL:
https://auth.sfomuseum.org/auth/?redirect=cl:///objects/recent/#add-to-shoebox-1880254937
And enter the following code manually:
0d2a110aa0341f6be68aa4cf33f43614b979fd4b0d081d48c9c11481359d55ac3e96e195eccdf946a490f0fe616e0907e2c8981d947287135b9b1acf
This code will expire in 10 minutes.

If you look carefully at the link in the screenshot of the email message above you'll see that it contains a redirect URL to **the page the object was added from** `https://collection.sfomuseum.org/objects/recent/` and a `#add-to-shoebox-{OBJECTID}` fragment. That fragment will trigger a new modal dialog requesting confirmation that you really want to add the object to your shoebox.

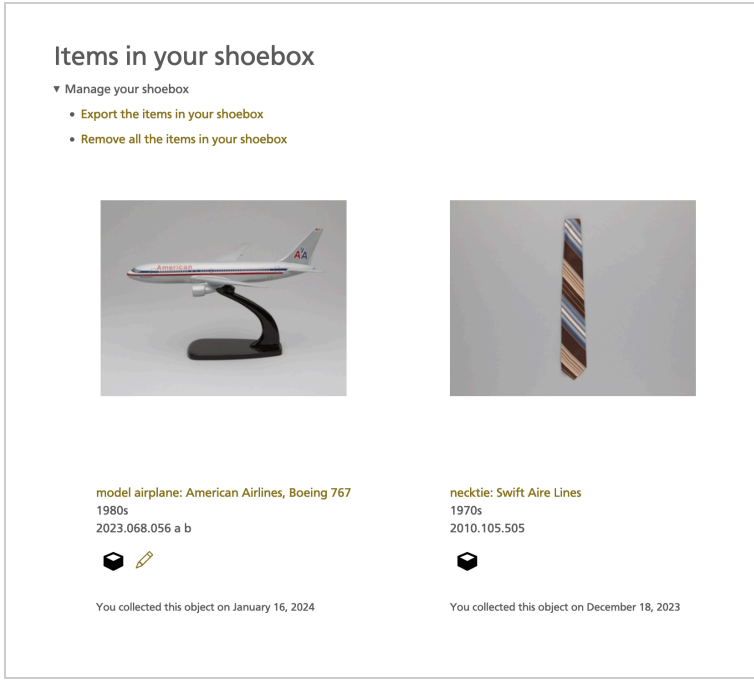

Add this object to your shoebox?
Please confirm that you would like to add the object "model airplane: American Airlines, Boeing 767" to your shoebox. You can remove it at any time.
Add to shoebox
Cancel
model airplane: American Airlines, Boeing 767
1980s
2023.068.056 a b
flight officer cap badge: Canadian Pacific Air Lines
1940s
2001.010.006
model airplane: Delta Air Lines, Lockheed L-1011 TriStar
c. 1986
2023.068.072 a b

Adding an object to your shoebox happens in the background. If there's a problem then you'll be notified but otherwise you'll remain on the same page that you added the object from and you can continue doing whatever it is you were doing before collecting that object.

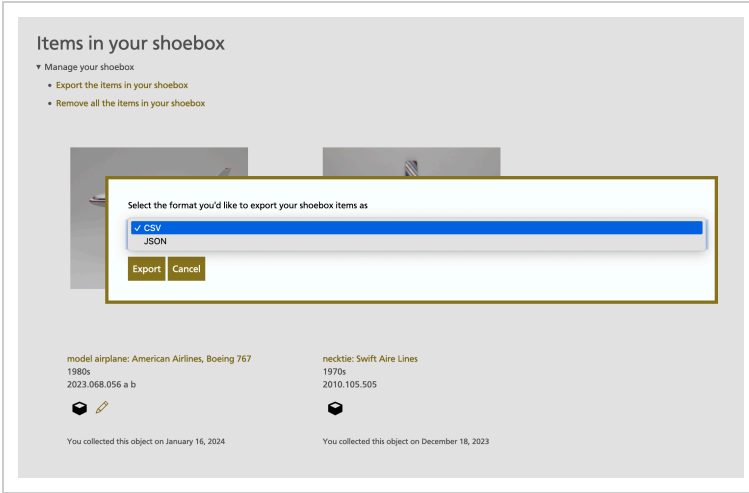


You can see all the objects you've added to your shoebox by visiting:

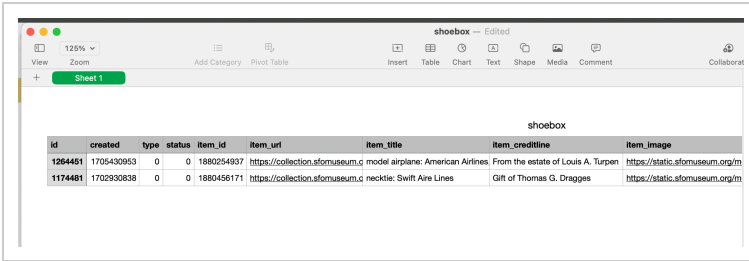
https://collection.sfomuseum.org/you/shoebox/


Items in your shoebox
Manage your shoebox
Export the items in your shoebox
Remove all the items in your shoebox
model airplane: American Airlines, Boeing 767
1980s
2023.068.056 a b
You collected this object on January 16, 2024
necktie: Swift Aire Lines
1970s
2010.105.505
You collected this object on December 18, 2023

Underneath the "Items in your shoebox" header is a collapsible menu that lists controls for managing the items in your shoebox.

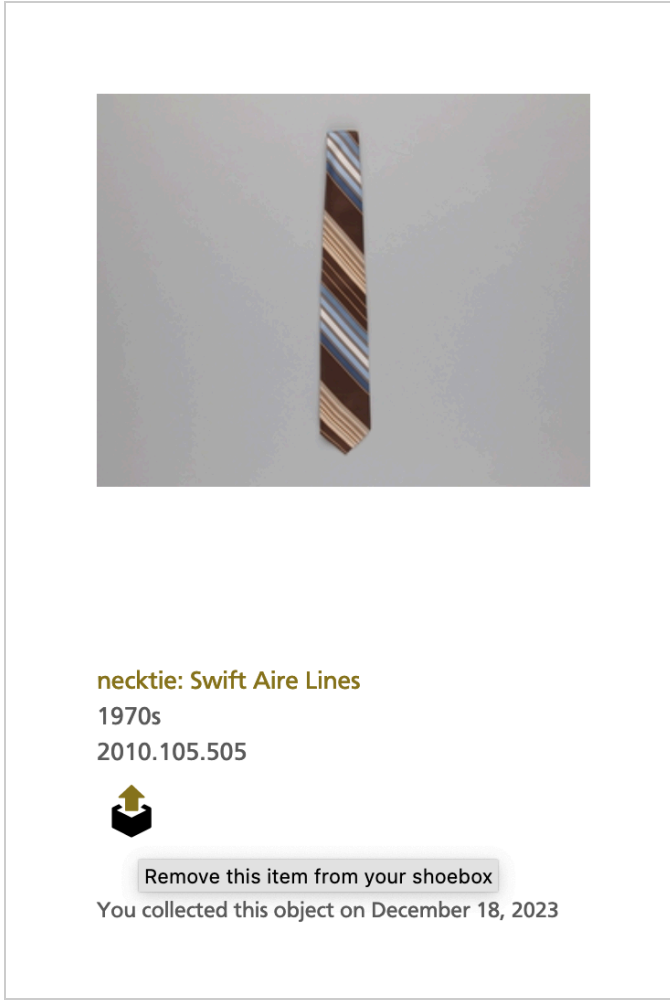


Currently there are controls to export the contents of your shoebox as a comma-separated value (CSV) or a JSON-encoded document and to remove all the items from your shoebox entirely.


shoebox — Edited
Sheet 1
shoebox
id created type status item_id item_url item_title item_creditline item_image
1264451 1705430953 0 0 1880254937 https://collection.sfomuseum.c model airplane: American Airlines From the estate of Louis A. Turpen https://static.sfomuseum.org/m
1174481 1702930838 0 0 1880456171 https://collection.sfomuseum.c necktie: Swift Aire Lines Gift of Thomas G. Dragges https://static.sfomuseum.org/m

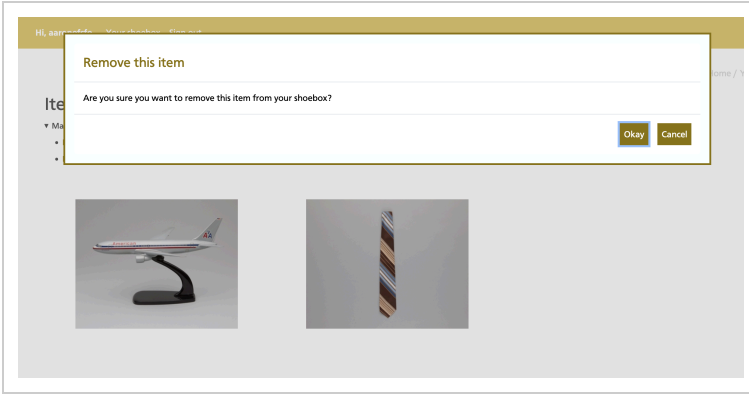
Exports will contain the following CSV columns (or JSON properties): `id, created, type, status, item_id, item_url, item_title, item_creditline, item_image` and are designed to be minimally-viable machine-readable data that can be used to inform more sophisticated

applications in advance of a dedicated SFO Museum Application Programming Interface (API) endpoint, discussed below.


necktie: Swift Aire Lines
1970s
2010.105.505
Remove this item from your shoebox
You collected this object on December 18, 2023

"Removing all the items from your shoebox" will, as it says, empty your shoebox entirely. If you want to remove a single object, though,

simply click the shoebox icon underneath the object's title (again). You'll be prompted to confirm that you want to remove the object and once you do the action will be completed in the background.



That covers the basics of the shoebox. As has been mentioned a few times already the design and implementation of the shoebox is deliberately simple right now. It isn't anything that couldn't also be done using your browser's bookmarking system or a dedicated bookmarking service; both of those are good approaches too. But if you are looking for a dedicated place on the SFO Museum Aviation Collection website to gather and organize the objects that interest you, a place that will expand and improve in time, then the shoebox is here for you to use.

Next Steps

Poster: Japan Air Lines, Japan. Paper, ink. Gift of Japan Airlines, SFO Museum Collection. ***2015.030.042***

The rest of this blog post talks about some of the features for the shoebox talk we are working on, going forward. These are things that are made possible by the addition of user accounts and idea of a shoebox, however simple its implementation is now. It's only possible to collect objects today but that doesn't mean it won't be possible to collect other things – **wayfinding routes** `https://millsfield.sfomuseum.org/wayfinding/` , **social media**

posts `https://millsfield.sfomuseum.org/social/` , **coloring book**
sheets `https://collection.sfomuseum.org/coloringbook/` , **individual flights to and from**
SFO `https://millsfield.sfomuseum.org/flights/` and so on – in the future.

Named sets and public shoebox items

Poster: JAL Cargo. Paper, ink. Gift of Thomas G. Dragges, SFO Museum Collection. ***2001.135.020***

Currently individual shoebox items are only viewable by the person who added them. Going forward we plan to add the ability to organize shoebox items in to named sets and add the ability to make both objects and named sets publicly viewable to anyone visiting the SFO Museum Aviation Collection website.

Search and filtering

Postcard: Flying Tiger Line, Canadair CL-44D. Paper, ink. Gift of Thomas G. Dragges, SFO Museum Collection. ***2015.166.0690***

Likewise there is currently no way to search or filter the items in a shoebox. This is a reflection of our desire to start small, with early releases, layering on advanced functionality as we go. Eventually all the same controls for filtering and navigating results that are provided when you **search the entirety of the SFO Museum**

Aviation Collection

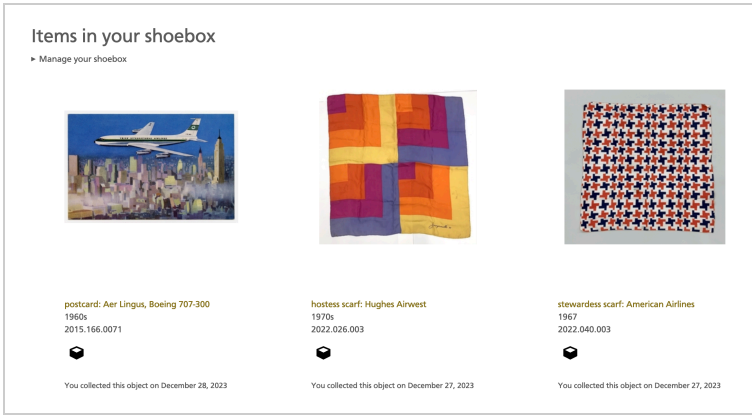
website `https://collection.sfomuseum.org/search/` will be made available for individual shoeboxes.

Application Programming Interface (API)

Photograph: World Airways, Boeing 747-200F freighter nose-loader. Photograph. Gift of the William Hough Collection, SFO Museum Collection. ***2012.096.116***

People with a technical bent may have looked "under the hood" at the network traffic for the SFO Museum Aviation Collection website and noticed that there is already an API. Your web browser uses, and has been using, that API for a long time but those communications are gated by access tokens which are specific to the website (and rotated on a regular basis to prevent unaithorized reuse). That will change soon. There is no immediately launch date for a public API

yet, largely because it involves some internal "plumbing" changes we want to finish first but it will happen and the plan is for it to happen sooner rather than later.

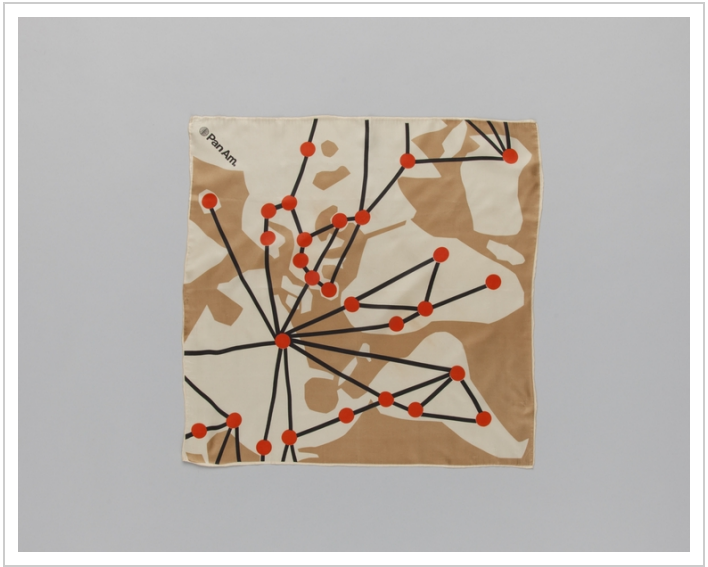


2024-01-22

things I have written about elsewhere #20240312

Holding Hands with the "Fediverse" – ActivityPub...

Holding Hands with the "Fediverse" – ActivityPub at SFO Museum



Customer service agent scarf: Pan American World Airways. Silk. Gift of the Pan Am Association, SFO Museum Collection. ***2000.058.0173***

This was **originally published on the SFO Museum Mills Field weblog** `https://millsfield.sfomuseum.org/blog/2024/03/12/activitypub/` , in March 2024.

Generally, it's not a good sign when a blog post needs to start with a glossary. This post does because it's still difficult to discuss the subject at hand with people who are unfamiliar with the terms mentioned below before they inevitably (and justifiably) stop you to say things like "*Wait, the...what?!*" With that in mind here are the two sentences that sum up this blog post immediately followed by a brief glossary of terms if you find yourself wondering what it all means.

> SFO Museum has joined the “Fediverse”. We have begun to operate a series of automated “bot” accounts that are published using the ActivityPub protocols and that can be subscribed to from any client, like Mastodon, that support those standards.

The rest of this blog post is divided in to four sections:

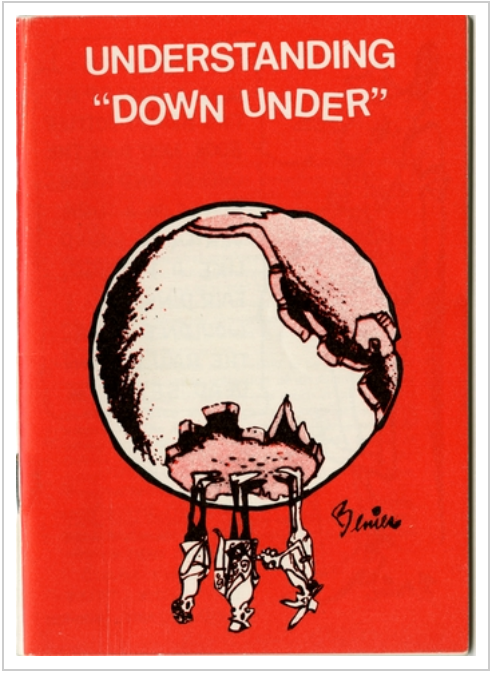
1. ***A brief glossary of terms*** `#glossary` *which attempts to decipher and make sense of some of the technical jargon that has evolved around this thing called "ActivityPub". Unfortunately it's still not really possible to talk about why ActivityPub exists and what makes it important without these terms creeping in to the conversation.*

2. ***Why are we doing this?*** `#why` *which outlines the historical context, the vision and goals for adopting ActivityPub at SFO Museum.*

3. ***What are we doing?*** `#what` *which describes our initial experiments integrating ActivityPub with SFO Museum's digital initiatives. If you already understand ActivityPub and are more interested in just seeing what we're doing, before understanding why, you can start here.*

4. ***How are we doing this?*** `#how` *is the technical section describing how all of this works "under the hood" and which can safely be skipped if those details don't interest you.*

A brief glossary of terms



Tourist information brochure: Qantas Airways. Paper, metal, ink. Transfer from San Francisco International Airport, SFO Museum Collection. 2003.010.032

The terms that follow tend to evoke strong opinions and are not infrequently the subject of vigorous debate but these names are, as I write this, the lingua franca of the topic at hand.

1. ***Decentralized** A "decentralized" service, as the name implies, exists in contrast to a "centralized" service. Centralized services are ones where all the interactions between participants happen inside the boundaries of the platform operating that service. For example, services like Facebook, Twitter or TikTok are all considered "centralized". The most easily recognizable "decentralized" service is email where any number of providers (Gmail, Hotmail, etc.) can interoperate with one another using a variety of different clients (Gmail, Outlook, Apple Mail,*

etc.)

2. ***ActivityPub A set of standards and protocols for exchanging (sending, receiving and propagating) messages and related interactions in a decentralized manner. Although ActivityPub is not limited to "social networking" or "social messaging" these kinds of activities are still the most common use cases.***

3. ***Mastodon An open-source software project allow communities to host their own social networking websites that, by virtue of implementing the ActivityPub standards, are able to interoperate with other Mastodon instances (and other ActivityPub services).***

4. ***Fediverse This is a common term used to describe the "federated universe" of decentralized services which are able to interact with one another.***

If you are curious to read more The Verge's **"The fediverse, explained"** `https://www.theverge.com/24063290/fediverse-explained-activitypub-social-media-open-protocol` and Tom Coates' **"How Threads will integrate with the Fediverse"** `http://plasticbag.org/archives/2024/01/how-threads-will-integrate-with-the-fediverse/` are good places to start. With that out of the way, onwards!

Why are we doing this?

Postcard: San Francisco International Airport (SFO), Pancake Palace. Paper, ink. Gift of Thomas G. Dragges, SFO Museum Collection. 2015.166.2289

In the spring of 2012 I got access to a list of 50,000 artworks, and their corresponding webpages, from the collection of the **Museum of Modern Art** `https://moma.org` (MoMA) in New York City. Shortly afterwards I emailed the support team at **Foursquare** `https://swarmapp.com/` , at the time still a social location-sharing website, and asked whether they would have any concerns if I used that list to create 50,000 "venues" on their platform; one venue for each artwork in the MoMA collection. If people were already actively competing to become "mayor" of their local coffee shop it didn't seem like much a stretch to imagine that people would do the same for their favorite works of art on display at MoMA. Foursquare politely asked me not to do that. I was disappointed but not entirely surprised. Aside from all the other considerations having that many "venues" all clustered within the space of a single building, even a building as large as MoMA, likely would have introduced a host of interface problems for the service.

A couple years later, when I was working at the **Cooper Hewitt Smithsonian National Design Museum** `https://cooperhewitt.org` , I was out with a friend who worked for Twitter and I asked them whether

it would be possible for the museum to "create 200,000 Twitter accounts, one for each object in **the Cooper Hewitt's collection** `https://collection.sfomuseum.org` ". My friend looked at me for a moment, laughed, and then simply said: No.

Employee manual: Virgin America, social media. Paper, ink. Gift of Alaska Airlines, SFO Museum Collection. ***2018.083.133***

At around the same time there were already nascent efforts to try and imagine what "social messaging" would look like, untethered from the big centralized platforms like Twitter or Facebook. People asked why the kinds of messages that people exchanged on those platforms couldn't be shared in a manner similar to the way that email messages are sent and delivered to a variety of different service providers (Gmail, Hotmail, your local ISP) using a range of different clients (Gmail, Apple Mail, Outlook, etc.)

Those efforts, to imagine the protocols and the services, that would enable "decentralized" messaging picked up speed in the years after 2016 with two projects in particular garnering the bulk of people's attention: **ActivityPub** `https://activitypub.rocks/` , the underlying protocol for social messaging that became a **W3C Recommendation** `https://www.w3.org/TR/activitypub/` in 2018, and **Mastodon** `https://joinmastodon.org/` an open-source software project that allows people to run social networking websites for communities of their choosing and which can interoperate with other Mastodon instances because they implement the ActivityPub protocols. Eventually the buzz around both ActivityPub and Mastodon quieted down but both projects kept improving, slowly and incrementally, and were ready and waiting when the interest in alternatives to large and centralized services resurfaced again in 2022.

Travel information brochure: United Air Lines, National Air Taxi Service. Paper, ink. Gift of the William Hough Collection, SFO Museum Collection. ***2006.010.748***

In 2023 SFO Museum spent some time experimenting with Mastodon to see where and whether it could both be integrated with our existing **social media** `https://millsfield.sfomuseum.org/blog/tags/socialmedia/` and collections-related efforts. Mastodon is a complex and sophisticated application in its own right and its software and hardware dependencies reflect that. These requirements are magnified by the complexities of the ActivityPub specifications and everything that needs to be happens in order to implement them. In the end there were always enough reasons why SFO Museum running its own Mastodon instance would be too complicated and it never came to pass. We are not the only

organization pulling at these threads. In July, 2023 the **BBC announced that they were experimenting with Mastodon** `https://www.bbc.co.uk/rd/blog/2023-07-mastodon-distributed-decentralised-fediverse-activitypub` on a trial basis and recently announced that they were **extending that trial** `https://www.bbc.co.uk/rd/blog/2024-02-extending-our-mastodon-social-media-trial` :

> We were aiming to learn about how much work and cost this involved, how many people we'd reach, what levels of engagement we would get and to explore the risks and benefits of the federated model. The trial so far has been really effective in helping us learn about how the Fediverse is evolving, what technical support a Mastodon server needs, what the costs are, and how a large media organisation like the BBC can engage with the many different overlapping communities that exist in this rapidly changing space.

During our own initial invesigations I would sometimes be asked why SFO Museum was interested in pursuing Mastodon, or something ActivityPub-related. I told people that we wanted to:

1) Establish a social-media presence and platform that the Museum controls which can play nicely with larger commercial social media platforms but is independent of those same platforms. This is important because those platforms can (and often do) make decisions which adversely affect the Museum's ability to reach its audiences and/or pursue policies that do not square with the goals and values of the airport or the City.

2) Provide a platform where the Museum can experiment with the ability to create targeted or subject-specific social media accounts for individual staff members, entire departments, artists or lenders whose work is on display or even inanimate objects like galleries or public art works, all under the "umbrella" of the Museum's own Mastodon, or equivalent ActivityPub, instance. For example, people who travel in and out of T2 could subscribe to `@boomerang-gallery@social.sfomuseum.org` which, in turn, would broadcast an announcement when a new exhibition is installed. *Note: The "@boomerang-gallery@social.sfomuseum.org" account does not exist...yet.*

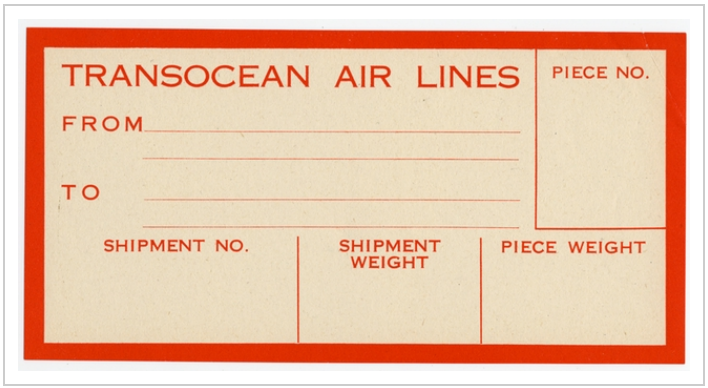
Ultimately the goal is to expand and broaden the "surface area of interests" allowing us to reach a broader audience and increasing awareness of the Museum's programming and offerings throughout the airport and over time. To that end having a platform-agnostic means by which our visitors can subscribe to all the individual things which interest them and, simultaenously, having a multiplicity of channels through which we can send people updates about the Museum's programming is an attractive proposition.

Roll of toilet paper: EVA Air, Hello Kitty. Paper, ink. Gift of Vincent Ma, SFO Museum Collection. ***2021.020.0359***

Twenty-ish years in to the contemporary "social media" landscape (social networking, social messaging and sharing, social objects) it seems reasonable to ask: If people see value and meaning interacting with things that aren't "people", like venues or brands or services, then why wouldn't that same behaviour extend to individual objects in a museum? And why wouldn't a museum embrace that opportunity as a chance to share what it knows, understands and appreciates about an object beyond the limited space afforded by a wall label or an exhibition catalog, both in the moment and in the future? *What happens when a new and exciting essay about an object is published and how is it shared with all the people who've seen that object in an exhibition and love it just as much the curator who chose it? Usually, if we're being honest, nothing happens*.

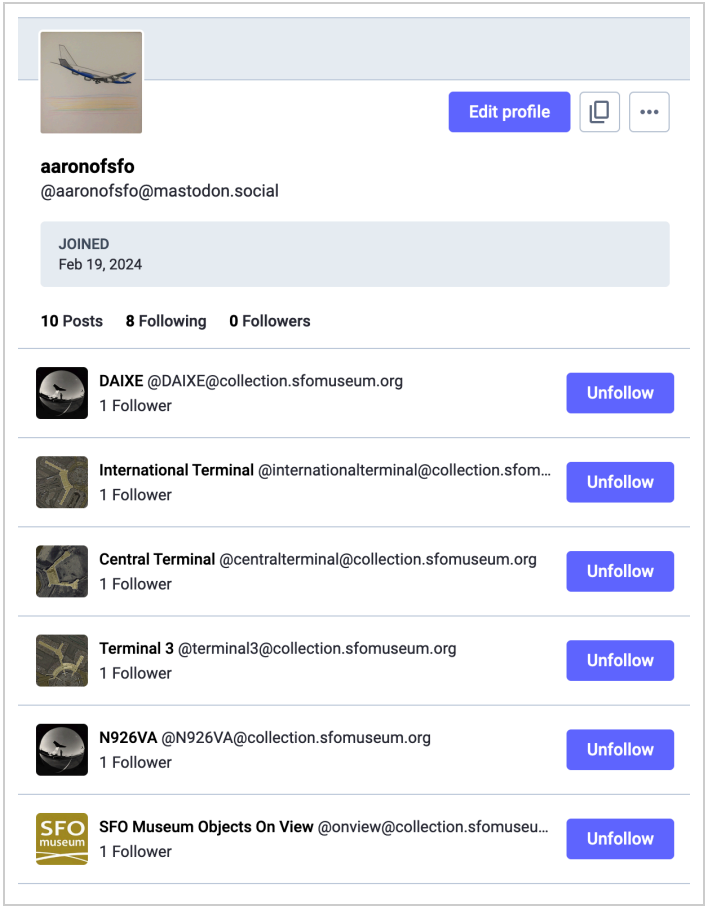
At a very practical level, then, ActivityPub is simply the mechanical means by which that essay (or a commentary about that essay or, really,

whatever) can be shared with a diverse audience without having to enter in to one or more Faustian bargains that the large (centralized) social media platforms increasingly demand. Importantly, these means can serve as a kind of vehicle by which we are able to guarantee that the objects in our collection, which by virtue of their inclusion we argue means they are worthy of repeated consideration, can enjoy a kind of repeat visitation. Even if that revisitation is virtual it fosters the practice of seeing, and re-seeing, the objects in our collections more than once.



Cargo delivery label: Transocean Air Lines. Paper, ink. Gift of the Frank J. Lichtanski Collection, SFO Museum Collection. ***2011.061.0996***

What are we doing?

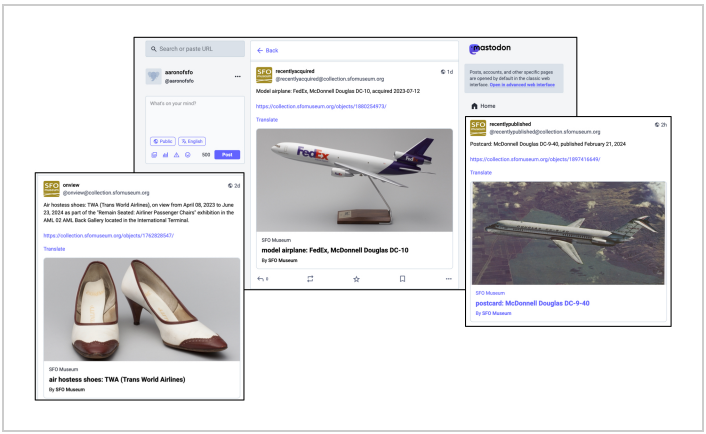


SFO Museum has joined the "Fediverse". We have begun to operate a series of automated "bot" accounts that are published (broadcast) using the ActivityPub protocols and can be subscribed to from any client that supports those standards. In 2024 the most commonly used client is Mastodon `https://joinmastodon.org/` , or third-party Mastodon clients like **Phanpy** `https://phanpy.social/` or **Ivory** `https://tapbots.com/ivory/` , but Meta has announced that its

Threads application will start supporting ActivityPub `https://www.theverge.com/2023/12/13/24000120/threads-meta-activitypub-test-mastodon` shortly. This is the goal of the "Fediverse": For SFO Museum to be able host and publish these accounts from our own servers and for people to be able to subscribe to them from the clients and platforms of their choosing.

As mentioned these are automated, low-frequency, accounts and, currently, only a limited set of interactions are supported: Accounts can be followed or unfollowed, individual posts can be "liked", "boosted" or replied to but those replies will not be answered (yet) or published on the SFO Museum websites. To get started we've created three "groups" of accounts. They are: Things which have happened recently involving the **SFO Museum Aviation Collection** `https://collection.sfomuseum.org` ; Things which have happened in the terminals (new and old) and; Things from the collection which are related to **flights in and out of SFO** `https://millsfield.sfomuseum.org/blog/2023/03/23/realtime/` .

Things which have happened recently



These accounts republish individual objects from already existing webpages on the **SFO Museum Aviation Collection** `https://collection.sfomuseum.org` website. They are:

1. *`@onview@collection.sfomuseum.org` – will publish objects from the Aviation Collection that are **currently on view in exhibitions** `https://collection.sfomuseum.org/objects/onview` in the SFO terminal complex.*

2. *`@recentlyacquired@collection.sfomuseum.org` – will publish objects that have recently been **accessioned in the to the Aviation Collection** `https://collection.sfomuseum.org/objects/recent/` .*

3. *`@recentlypublished@collection.sfomuseum.org` – will publish objects that have recently been **added to the Aviation Collection website** `https://collection.sfomuseum.org/objects/created` .*

SFO Museum Objects On View
@onview@collection.sfomuseum.org

Photograph: Harold M. Bixby, on view from September 23, 2023 to September 07, 2025 as part of the "The Harold Bixby Collection: Unlocking an Archival Treasure" exhibition in the AML 05 AML Book Show Gallery located in the International Terminal.

https://collection.sfomuseum.org/objects/1880201449/

Translate

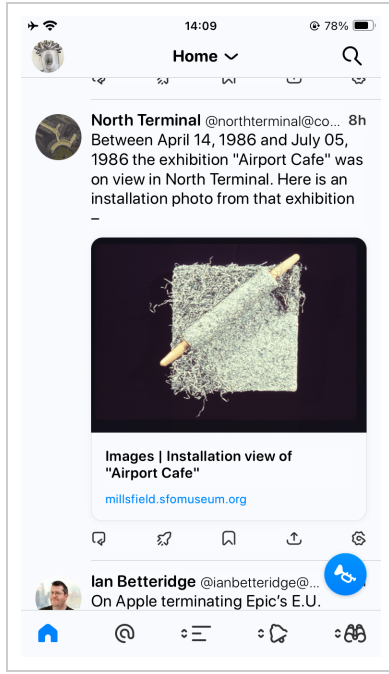
SFO Museum

photograph: Harold M. Bixby

By **SFO Museum**

Mar 11, 2024, 12:06 · · 0 · ★ 0

Things which have happened in the terminals


14:09
78%
Home
North Terminal @northterminal@co... 8h
Between April 14, 1986 and July 05, 1986 the exhibition "Airport Cafe" was on view in North Terminal. Here is an installation photo from that exhibition –
Images | Installation view of "Airport Cafe"
millsfield.sfomuseum.org
Ian Betteridge @ianbetteridge@...
On Apple terminating Epic's E.U.

We have also set up accounts for the individual terminals, past and present, at SFO. These accounts will publish installation photos of the over **40 years worth of exhibitions** `https://millsfield.sfomuseum.org/exhibitions/` that have been mounted in their respective terminals. They are:

1. `@terminal1@collection.sfomuseum.org` – *will publish installation photographs of exhibitions held in* ***Terminal 1*** `https://millsfield.sfomuseum.org/terminals/T1/` .

2. `@terminal2@collection.sfomuseum.org` – *will publish installation photographs of exhibitions held in* ***Terminal 2*** `https://millsfield.sfomuseum.org/terminals/T2/` .

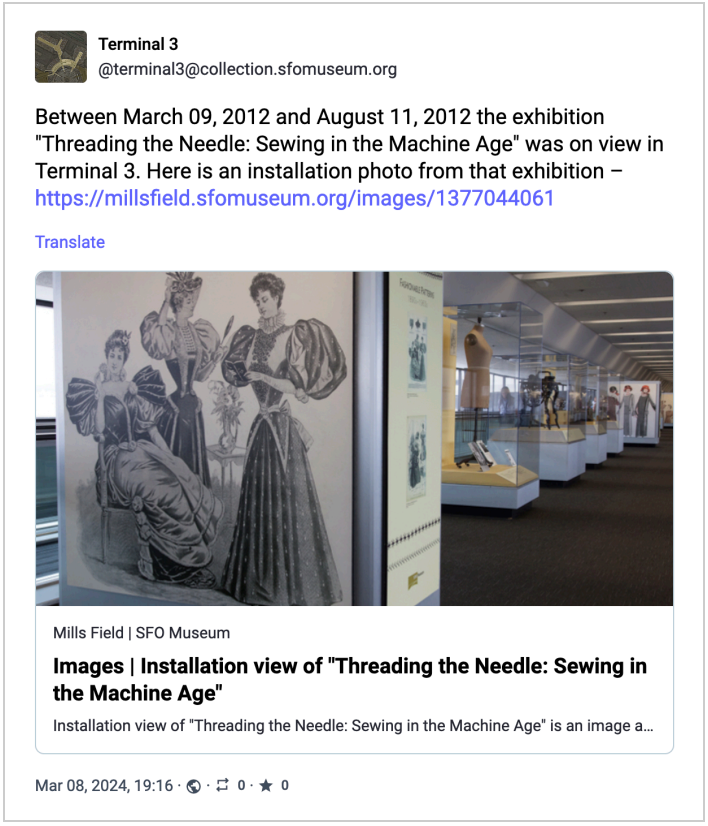
3. *@terminal3@collection.sfomuseum.org – will publish installation photographs of exhibitions held in* ***Terminal 3*** https://millsfield.sfomuseum.org/terminals/T3/ .

4. *@internationalterminal@collection.sfomuseum.o – will publish installation photographs of exhibitions held in the* ***International Terminal*** https://millsfield.sfomuseum.org/terminals/ITB/ .

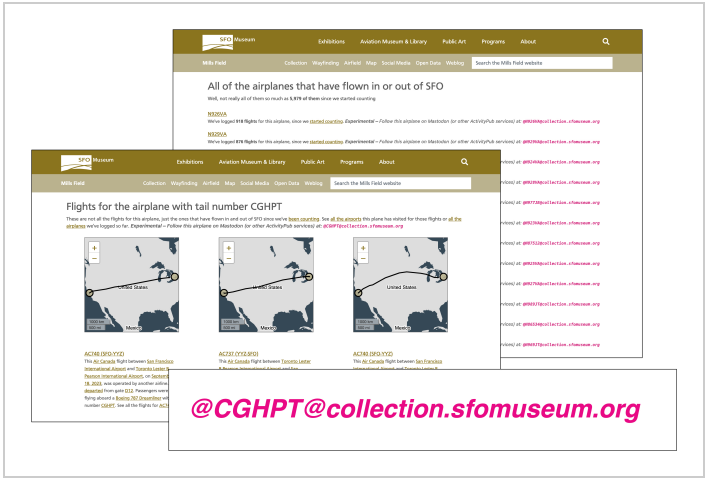
5. *@northterminal@collection.sfomuseum.org – will publish installation photographs of exhibitions that were held in the old* ***North Terminal*** https://millsfield.sfomuseum.org/terminals/NORTH/ *(now Terminal 3).*

6. *@southterminal@collection.sfomuseum.org – will publish installation photographs of exhibitions that were held in the old* ***South Terminal*** https://millsfield.sfomuseum.org/terminals/SOUTH/ *(in the space where Terminal 1 and the International Terminal are now located).*

7. *@centralterminal@collection.sfomuseum.org – will publish installation photographs of exhibitions that were held in the old* ***Central Terminal*** https://millsfield.sfomuseum.org/terminals/CENTRAL/ *(now Terminal 2).*


Terminal 3
@terminal3@collection.sfomuseum.org
Between March 09, 2012 and August 11, 2012 the exhibition "Threading the Needle: Sewing in the Machine Age" was on view in Terminal 3. Here is an installation photo from that exhibition – https://millsfield.sfomuseum.org/images/1377044061
Translate
Mills Field | SFO Museum
Images | Installation view of "Threading the Needle: Sewing in the Machine Age"
Installation view of "Threading the Needle: Sewing in the Machine Age" is an image a...
Mar 08, 2024, 19:16 · · 0 · 0

Things involving flights in and out of SFO

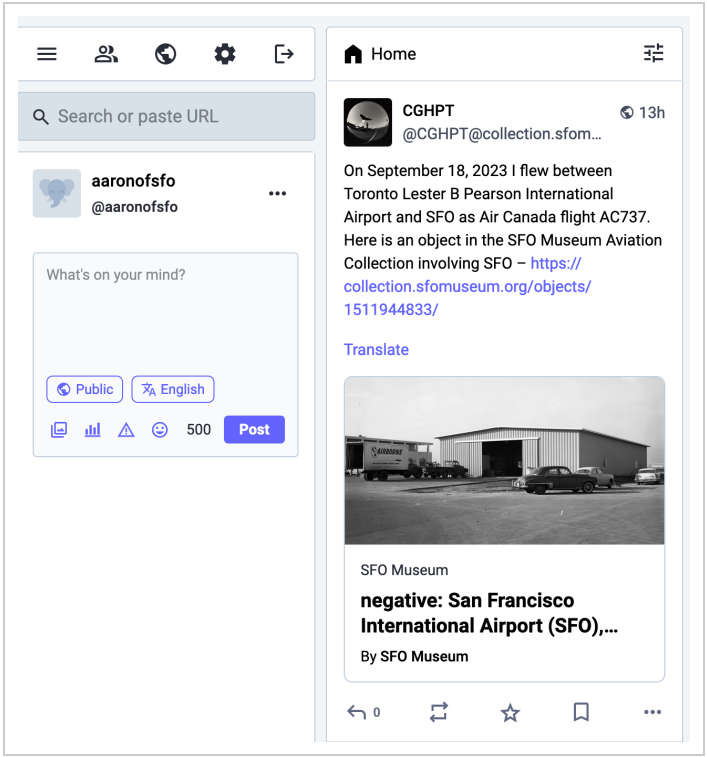

All of the airplanes that have flown in or out of SFO
Flights for the airplane with tail number CGHPT
@CGHPT@collection.sfomuseum.org

SFO Museum has been **harvesting data for flights in and out of SFO** `https://millsfield.sfomuseum.org/blog/tags/flightdata/` since 2006. We have collected records for over **7 million individual flights** `https://millsfield.sfomuseum.org/flights` and since 2019 that data has usually included the unique registration number (commonly referred to as the "tail number") assigned to each aircraft resulting in flight data for approximately **6,000 individual aircraft** `https://millsfield.sfomuseum.org/flights/airplanes/` that have arrived at or departed from SFO.

The obvious thing to do is to create an ActivyPub account for each one of those airplanes, right? So we did! For example:

1. *`@N926VA@collection.sfomuseum.org`*
2. *`@DAIXE@collection.sfomuseum.org`*
3. *And so on...*

Although we haven't yet automated the addition of new aircraft the chances are good that when you look out the window at SFO most, if not all, of the airplanes you see will have their own ActivityPub account. There are 6,000 (and counting) accounts so I won't list them all here. We do have webpages for **all the aircraft** `https://millsfield.sfomuseum.org/flights/airplanes/` as well as **each individual tail number** `https://millsfield.sfomuseum.org/airplanes/N926VA/flights/` and every one of those webpages includes the relevant ActivityPub address for aircraft in question.

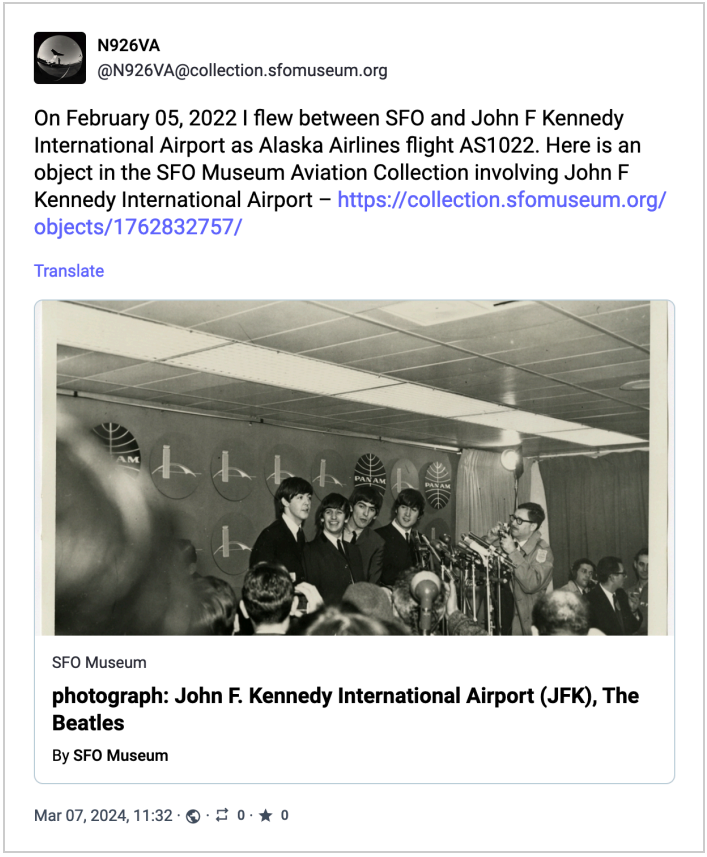


Each aircraft account will publish a new post every day describing a flight

it took and include an item from the **SFO Museum Aviation Collection** `https://collection.sfomuseum.org` related to the original airport, the destination airport or the airline operating that flight. If this sounds a lot like the work described in the **Browsing the SFO Museum Aviation Collection Through Real Time Flight Data** `https://millsfield.sfomuseum.org/blog/2023/03/23/realtime/` blog post that's because it is, but seen through the filter of historical rather than real time flights.

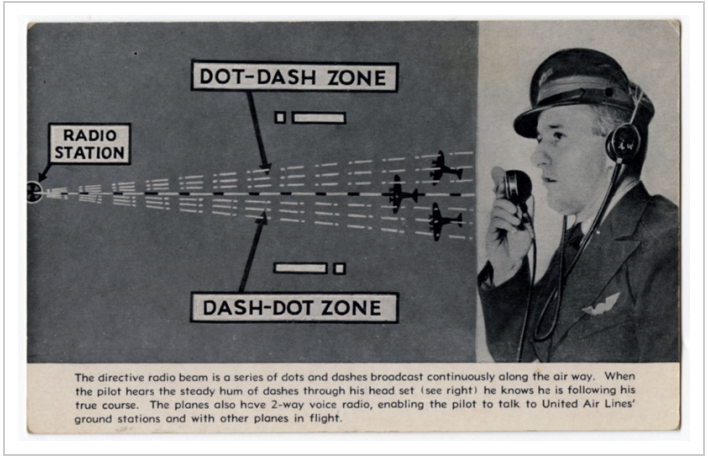
We have also created ActivityPub accounts for all the airports that intersect with the Aviation Collection and airlines are soon to follow. Airport accounts take the form of "three-letter airport code" + "airport" (for example `@SFOairport@collection.sfomuseum.org`) but as of this writing they are still inactive while we determine what they will "do".

If you are starting to wonder whether we are going to create individual ActivityPub accounts for each and every object in the **SFO Museum Aviation Collection** `https://collection.sfomuseum.org` the answer is quite simply: Yes, but we've started with aircraft tail numbers to better understand the mechanics and operational concerns of servicing a large number of automated accounts before moving on to the collection itself. If you are starting to wonder whether there is anything we *won't* create an ActivityPub account for (galleries, individual exhibitions, gates at the airport...) the answer is: Probably not.


N926VA
@N926VA@collection.sfomuseum.org
On February 05, 2022 I flew between SFO and John F Kennedy International Airport as Alaska Airlines flight AS1022. Here is an object in the SFO Museum Aviation Collection involving John F Kennedy International Airport – https://collection.sfomuseum.org/objects/1762832757/
Translate
SFO Museum
photograph: John F. Kennedy International Airport (JFK), The Beatles
By SFO Museum
Mar 07, 2024, 11:32 · · 0 · 0

The rest of this blog post gets is about some of the technical details of how we implemented this work. If you aren't interested in that this is a good place to stop reading and we invite you to subscribe to any or all of the accounts listed above and follow along as we explore what it means for a museum to hold hands with the Fediverse.

How are we doing this?


DOT-DASH ZONE
RADIO STATION
DASH-DOT ZONE
The directive radio beam is a series of dots and dashes broadcast continuously along the air way. When the pilot hears the steady hum of dashes through his head set (see right) he knows he is following his true course. The planes also have 2-way voice radio, enabling the pilot to talk to United Air Lines' ground stations and with other planes in flight.

Postcard: United Air Lines, radio. Paper, ink. Gift of Thomas G. Dragges, SFO Museum Collection. 2015.166.1695

I've already mentioned that Mastodon has proven to be too involved for SFO Museum to want to run its own dedicated instance. The same is true of other software packages that only implement the ActivityPub standards without any user interface. Importantly, there is nothing wrong with any of these projects, they just haven't been the right "fit" for SFO Museum. So what did we do? We built **our own minimal implementation of the ActivityPub protocols** `https://github.com/sfomuseum/go-activitypub` initially targeting automated "bot" accounts designed to share objects and other materials already available on the **SFO Museum Aviation Collection** `https://collection.sfomuseum.org` and **Mills Field** `https://millsfield.sfomuseum.org` websites. We did this to better understand the ActivityPub specifications, from end to end, and to consider design and architectural approaches to minimize the operational costs and maintenance of running our own ActivityPub services.

So, what *actually* needs to happen to make it possible for two, or more, people to exchange messages using ActivityPub? Let's say there are two people, Bob and Alice, who want to exchange messages. A "message" might be text or images or video of some combination of all three. An "exchange" is the act of sending those messages from one person to

another using an email-like addressing scheme but instead of using an email-specific protocol messages are sent over HTTP(S).

1. *There needs to be one or more web servers (services) to broker the exchange of messages between Bob and Alice.*

2. *Those web services need to have the concept of "member" accounts, in this case Bob or Alice, each of which has their own public and private encryption keys.*

3. *Each web service needs to implement an endpoint for looking up other ActivityPub-specific endpoints for each member account, namely there ActivityPub "inbox" and "outbox".*

4. *Some kind of persistent database for the web service to store information about member accounts, relationships between individual members and the people they want to send and receive messages from, the messages that have been sent and the messages that have been received.*

5. *Though not required an additional database to track accounts that an individual member does not want to interact with, referred to here as "blocking", is generally considered to be an unfortunate necessity in 2024.*

6. *A delivery mechanism to send messages published by Alice to all the people who have "followed" them (in this case Bob). The act of delivering a message consists of Alice sending that message to their "outbox" with a list of recipients. The "outbox" is resposible for coordinating the process of relaying that message to each recipient's ActivityPub (web service) "inbox".*

7. *In practice you will also need somewhere to store and serve account icon images from. This might be a filesystem, a*

remote hosting storage system (like AWS S3) or even by storing the images as base64-encoded blobs in one or your databases. The point is that there is a requirement for this whole other layer of generating, storing, tracking and serving account icon images.

Photograph: Pan American Airways, Boeing 314. Photograph. Gift of M.D. Klaas, SFO Museum Collection. ***2018.112.0557***

To recap, we've got:

1. *A web server with a minimum of four endpoints: webfinger, actor, inbox and outbox.*

2. *A database with the following tables: accounts, followers, following, posts, messages, blocks.*

3. *Two member accounts: Bob and Alice.*

4. *A delivery mechanism for sending messages; this might be an in-process loop or an asynchronous message queue but the point is that it is a sufficiently unique part of the process that it deserves to be thought of as distinct from the web server or the database.*

5. *A web server, or equivalent platform, for storing and serving account icon images.*

For the purposes of these examples and for testing the assumption is that Bob and Alice have member accounts on the same server. Importantly, please note that there is no mention of how Bob or Alice are authenticated or authorized on the web server itself. The public-private key pairs, mentioned above, that are assigned to each member are solely for the purposes of signing and verifying messages send between one or more ActivityPub endpoints. In practice, once you've finished supporting additional features such as "liking" or "boosting" you end up with upwards of not just four but actually *eleven* separate database tables and all the code necessary to manage them. While far from impossible it is still, as the expression goes, a "non-trivial" setup. That's the bad news.

DOBAR TEK BOM APETITE Wohl bekomm's!
DOBROU CHUT APETITE DOBAR TEK BON APPETIT EETLUS TEZ BHOOK
HA NI ABA 美味しい VELBEKOMME SMAKELYK ETEN DOBROU CHUT
HYVÄÄ RUOKAHALUA ПРИЯТНО
МИЛОСТИ ПРОСИМ GOOD APPETITE
ДОБР АПЕТИТ NGISUTI
JÓ ÉTVÁGYAT 好味道 KITAM'
TEZ BHOOK Wohl bekomm's!
ASI LEAGBEMA MA-TOWO YIYE
BAILE FE MAISE DIB VEL BEKOMME
ДОБР АПЕТИТ DOBAR TEK
KITAM' ДОБР АПЕТИТ
SMACZNEGO BUON APPETITO SMAKELYK ETEN
BOM APETITE DOBAR TEZ BHOOK
NGISUTI TEK
POFTE BUNE HA NI ABA
EETLUS DOBAR TEK
ماكول الهناء AFIYET OLSUN
BOM APETITE BUEN PROVECHO VELBEKOMME
Wohl bekomm's! SMAKLIG MÅLTID KAΛΗ ΟΡΕΞΗ
VERDI YOUR AD GODU BAILE FE MAISE DIB
KAΛΗ ΟΡΕΞΗ ماكول الهناء
BUEN GOOD APPETITE
PROVECHO ASI LEAGBEMA POFTE BUNE
SMAKLIG MA-TOWO YIYE VERDI YOUR AD GODU ПРИЯТНО
MÅLTID BON 好味道 JÓ ÉTVÁGYAT
APPETIT VEL BEKOMME AFIYET OLSUN SMACZNEGO
美味しい BUON APPETITO МИЛОСТИ ПРОСИМ
KITAM' DOBROU CHUT HYVÄÄ RUOKAHALUA
BOM APETITE

Menu: Pan American World Airways, Rainbow (economy) class. Paper, ink. Gift of Thomas G. Dragges, SFO Museum Collection. ***2014.095.201***

The good news is that we have managed to implement all of this functionality in a low-cost, "serverless" deployment using a small number of AWS services consisting of:

1. *A set of DynamoDB tables that function as the database layer.*
2. *A Lambda function that implements all of the server logic.*
3. *An S3 bucket for hosting and serving account profile icons.*

4. *An SQS messaging queue to handle dispatching messages to individual followers.*

5. *A second Lambda function that handles the work of dispatching an individual message to a specific address.*

I've left out the code and the infrastructure which generates messages since that is SFO Museum specific. Here are some important characteristics of what we've built:

1. *DynamoDB is inexpensive.*

2. *Lambda functions are inexpensive and "scale to zero" meaning you are only charged for the time they are running.*

3. *Lambda functions are able to communicate directly with DynamoDB without the need for additional, and often costly, networking layers.*

4. *S3 is inexpensive.*

5. *SQS is inexpensive, scales to zero and can be used as a way to throttle the load placed on the Lambda functions it invokes if necessary.*

Most importantly the code itself is not dependent on AWS infrastructure. That's just a configuration option. The same code can be run on a bare-metal Linux server running a relational database, like MySQL (or even your laptop and SQLite) using a messaging queue of your own choosing. This is code designed to provide a simple and cost-effective way to deploy the *minimal subset* of ActivityPub-related functionality required to service a large number of *automated* accounts. We have open-sourced this code and you can see it at:

https://github.com/sfomuseum/go-activitypub

The documentation for this code is incomplete reflecting the nature of our work to first understand the mechanics, and second explore the tolerances, of the ActivityPub protocols. In advance of more comprehensive documentation we have set a GitHub "Discussions" group where people can ask questions or offer suggestions:

https://github.com/orgs/sfomuseum/discussions/1

This is code that was written by and for SFO Museum but has hopefully been designed in a way that any other museum could use it to spin up a large number of ActivityPub accounts for their own collections and programming. If that happened we would then be faced with the challenge and opportunity of making all those accounts "talk" to one another which feels like it would be a good problem to have.

Postcard: Virgin America. Paper, ink. Gift of Sirena Lam, SFO Museum Collection. ***2019.032.106***

2024-03-12

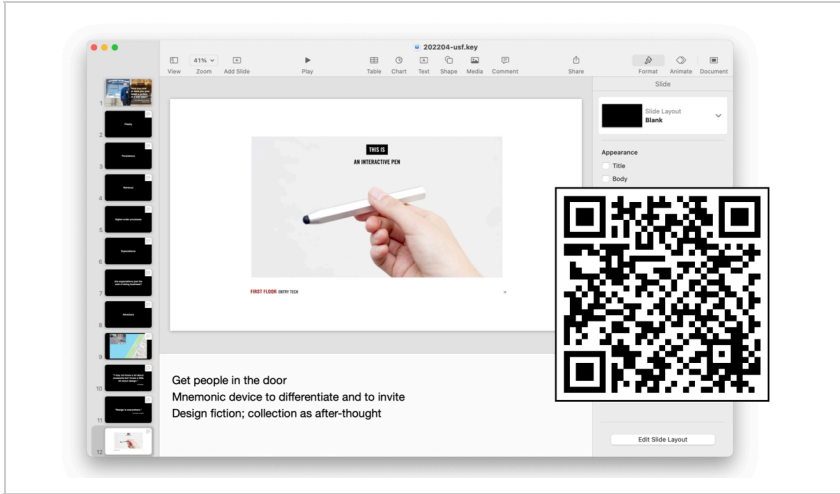
matrix multiplication as service animal

Talking about the Pen without talking about the...

Talking about the Pen without talking about the Pen

Novelty pen: Virgin America *c. 2010*
Gift of Faye Jose
Collection of SFO Museum ***2018.070.025***

A couple weeks ago, I spoke to a Museum Studies class at the University of San Francisco. I did not have time to prepare long-form notes in advance of the talk so the following is a reconstruction of what I said with the benefit of hindsight. If these were not my exact words they are what I meant to say.



When I was first invited to speak to this class I asked if there was anything in particular that I should focus on. In the past it's always been about the work that I was involved with to launch **The Pen** `http://www.aaronland.info/weblog/2015/04/10/things/#mw2015` at the Cooper Hewitt. Originally, that was supposed to the the topic for this class but the reality is that there isn't anything new to say about the Pen **beyond what I said to this class two years ago** `https://www.aaronland.info/weblog/2022/06/17/expectations/#usf` .

I am going to talk about the Pen briefly but more in the context of the larger goals we were trying to use the Pen to achieve and some of the other projects, each with similar but distinct motivations, that were happening at the same time. First, though, I am going to start with two strongly held beliefs and a pair of questions.

Roll of toilet paper: EVA Air, Hello Kitty *2014*
Gift of Vincent Ma
Collection of SFO Museum ***2021.020.0359***

The first strongly held belief is this: The thing which distinguishes culture and entertainment is the act of revisiting. Importantly entertainment becomes culture all the time but it is *the act of revisiting* a work of entertainment which causes that transformation to happen. Critically, it is the *act* of revisiting itself and not the *subject* of that revisiting which, to use a made-up word, "enculturates" a work.

It doesn't really matter whether you, personally, think the time and effort that other people spend studying the nuances and debating the intricacies of global entertainment franchises like Star Wars, Star Trek or the Marvel Cinematic Universe are worthwhile. The commitment that people devote to those endeavours is, I think, the demonstration of the worth and the value those works represent for a community. In short: culture.

Installation photo for the "Bowling: A Unique American Art Form" exhibition *1991*
Photo by ***SFO Museum***

The second strongly held belief is that: The role and the function of cultural heritage institutions (libraries, archives, museums) is to foster revisiting both as a general practice, broadly, and, more specifically, in the context of their collections and holdings. The inability, or the failure, to do so relegates cultural heritage institutions to a position where they are nothing more than one option among many short-term distractions competing for people's time, attention and money. In short: entertainment.

I also happen to believe that, at least in North America, the cultural heritage sector (principally museums) has made revisiting *as hard as possible for the most number of people possible*. Many people will never visit the same museum more than once and most people will never visit an exhibition, let alone a single object, twice. That is an unpopular opinion or at least not one that people in the sector like talking about openly. There are a lot of complex reasons why we've gotten to this place but the net result is that it has become too

expensive and too much of a hassle for too many people and so cultural endeavours (events, artifacts, resources) are generally treated as nothing more than another "one and done" experience among many.

We have manufactured the circumstances where we are not so much undoing "culture", which to be clear will keep chugging along with or without cultural heritage institutions, but all of the good work and good will nurtured over the years in those very institutions that were founded to collect, preserve and foster the culture that came before us.

One of the reasons that I like working at a museum in an airport is that the conditions we operate in present a dynamic unique among most museums and cultural heritage institutions: We enjoy repeat visitation *by default*. While that may not be literally true for literally all of the 58 millions passengers who pass through SFO every year it is true for a substantial number of them. Put another way, if only 10% of those passengers came back to SFO twice we would still have 5.8 million *repeat* visitations annually. **A museum in an airport** `http://www.aaronland.info/weblog/2015/11/09/keinholz/#mcn` faces its own distinct challenges, not least among them that no one expects to find a museum in an airport. That feels like an idea which can be normalized, though, and with it **the desire, value and expectation of revisiting the works on display** `https://www.aaronland.info/weblog/2023/08/21/quiet/#wayfinding` in our galleries.

But this is not really a talk about museums in airports so on to the questions.

The first question is one I was asked in 2022, on the tenth anniversary of the year I delivered **one of the keynote speeches** `http://www.aaronland.info/weblog/2012/12/01/coffee-and-wifi/#timepixels` at the National Digital Forum in New Zealand. I was asked to do **an interview** `https://www.youtube.com/watch?v=-98YouEuXl8` looking back on the previous decade in the context of all the work we had done at Cooper Hewitt to develop and launch the Pen.

What, I was asked, did I wish I had known at the time that I know now?

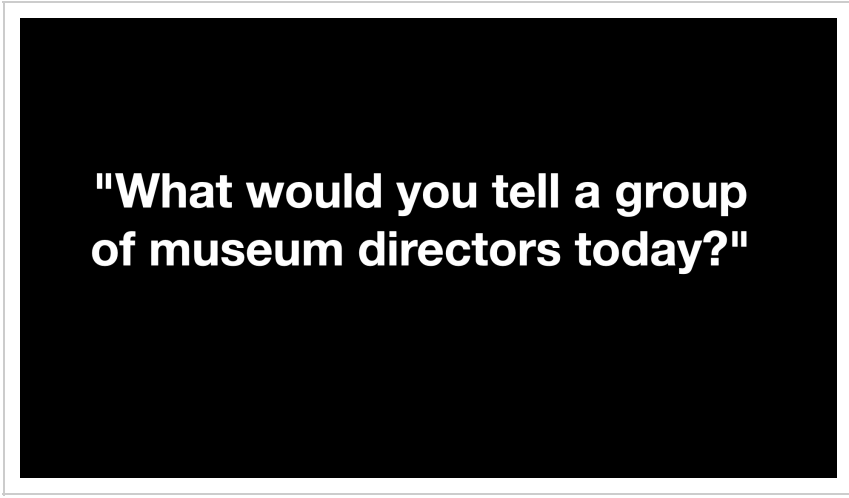
Print, Optical Toy: "The Rival Heros" (Spooner's Transformations, no. 7) *1838*
Gift of Hamill and Barker.
Collection of the Smithsonian Cooper Hewitt National Design Museum ***1961-105-9***

I said that I wished I had better understood the dynamics of the "long game" in museums.

This is not a flattering thing to say but the reality is that a time-honoured strategy inside museums is simply to "wait out" a person or a project that you don't like. The pace at which museums operate, so-called "museum time", and the time it takes to develop and mount individual exhibitions lends itself to a series of overlapping wars of attrition.

There were, and still are, people at the Cooper Hewitt who didn't think the Pen was a good idea. Our team's inability to demonstrate the worth of the project remains one of its very real failures and that failure was compounded by the simple fact that, in museum-time, letting the project operate for five years (that's how long the Pen was "on the floor") was ultimately inconsequential.

On the other hand, five years in the technology world is often enough time to completely up-end, both financially and operationally, what is even considered possible. But, as mentioned, that is still not the speed at which the totality of a museum oscillates and so there is this constant tension trying to demonstrate what is possible between two universes traveling at different speeds. I still don't know what the best way to bridge that gap is. Simply being aware of the problem is no solution but I will argue that it's better than being unaware of it. This is still the landscape in which digital initiatives in the cultural heritage sector operate.



The second question I was asked, more recently, is: What would I tell a group of museum directors the "future of museums" looked like? I don't know that my answer ever made it to that, or any, group of museum directors but I would say the same thing now that I said then:

*Go look at the **new products*** `https://www.adafruit.com/new` *page on the **Adafruit website*** `https://www.adafruit.com/` *and extrapolate from there.*

The museum sector has become overly-enamoured of the Googles and Disneys and the Apples of the world, each of which enjoys hard-won resources and capabilities, and we desperately want to believe their work is like any other consumer good that can just be ordered "off the shelf" and installed in our galleries.

First of all, that betrays a profound lack of understanding about how

much work and effort goes in those products. Second, it ignores everything that *has become possible* for everyone else who doesn't operate inside of the budget affordances and risk tolerances of a global multinational corporation.

Everything you see on Adafruit can be bought, today, with your credit card. In much the same way that underneath all the gild and splendor of so-called luxury mansions you'll still find the same plywood and two-by-fours used in every contemporary home, all the things you see on Adafruit are the same basic components you'll find in every piece of contemporary technology.

Adafruit is not the only company working to make these kinds of components available at affordable prices but what I think sets Adafruit apart has been both their commitment to an open-source model for the hardware and the software they develop and their ability to build on past successes. Adafruit may have begun largely as a supplier of third-party components and custom electronics but they are now designing and manufacturing their own circuit boards and parts in **their own facilities** `https://www.youtube.com/watch?v=xdH40Tvcnt8` in New York City.

In the past I have pointed out that **"Disney is to the museum sector what Google is to the technology sector, namely an unhelpful distraction"** https://aaronland.info/weblog/2018/09/12/distractions/#diorama . We, the musuem sector, look at all the ways an enterprise like Disney is able to deploy technology to attract and engage audiences and, more often than not, think that's just something we can get someone to pick up at the dollar store and slap a museum logo on. It is an attitude so completely divorced from the reality of the time, effort and false steps (not to mention capital *and* operational investments) that it takes a company like Disney to achieve those results that it borders on offensive.

The reason I continue to point to groups like Adafruit is because they *are* doing the work, they are operating at a scale that most closely matches the cultural heritage sector (certainly compared to global multinationals), the results are demonstrable and the museum sector might do well to learn a thing or two from them.

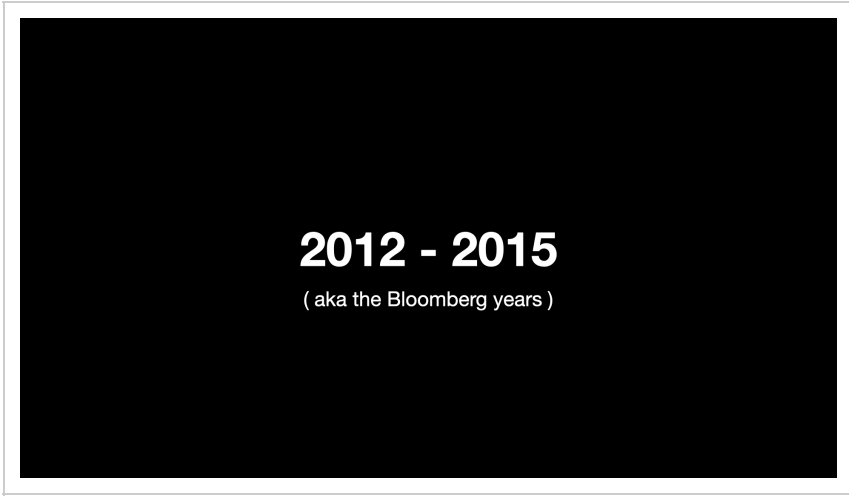
I also want to take a moment and mention this device. This is a product called the **"Tangara"** `https://www.crowdsupply.com/cool-tech-zone/tangara` being developed in Australia. It is a contemporary take on the original **iPod music player** `https://en.wikipedia.org/wiki/IPod` , complete with a scroll-wheel, made using contemporary circuit boards (the kind you can buy on Adafruit) and 3D printing. It is a crowd-funded project, set to ship the first units later this fall, and entirely open source from the design of the electronics to the software that runs the device.

This thing *sells* for 250$ which means the unit cost is probably somewhere in the 125$ to 175$ range. I actually have no idea but the point is that it's not more than 250$. I find this amazing.

This is what I mean when I talk about the so-called "future of museum" being a reflection of the new products page of the Adafruit

website. This is especially true given how the sector still holds audio tours, and the devices for delivering those guides, as the pinnacle of all the technological possibilities that might service our mandates. We can debate whether or not audio guides are really the best vehicle for our missions but the point I want to make is that, in 2024, there aren't any good reasons why the sector couldn't produce something like the Tangara purpose-fit for our needs.

Except for the part where nearly every person – and when I say "every person" I really mean everyone – who could have done this work or helped train the next group of professionals to tackle these kinds of projects has been driven out of, or away from, the institutions they worked for. Those same organizations have done little or nothing to rebuild any of that capacity. Not that any of those same organizations have stopped spending seven-figure sums on big technology plays which, as often as not, continue to be little more than glorified audio guides.



Speaking of big technology projects, and people who *really* like audio guides I am going to jump back in time to a three-ish year period, between 2012 and 2015, when Bloomberg Philanthropies funded a trio of projects.

The first was The Pen at the Cooper Hewitt Smithsonian National Design Museum, a project that I worked on and which, as I mentioned at the beginning of this talk, I have already **written and spoken about extensively** `https://aaronland.info/weblog/2022/06/17/expectations/#usf` . I am not going to say much more about it today.

The one thing I want to highlight though is that while the Pen was definitely meant to be a device that generated interest, and press, for the reopening of the museum, in 2014, it also had a much deeper and more important function. "Imagine if you could visit the museum", we used to say, "without having to spend your entire museum visit trying to figure out how to remember what you saw during that visit." That was really the problem we were trying to solve. To provide the means (the Pen) and the infrastructure (the museum's own servers) by which a person could have the confidence that they might, no pun intended, re-visit their visit in such a way that it would allow them concentrate and stay focused on the actual objects on display in the galleries.

The second project was the Brooklyn Museum's **Ask Brooklyn** `https://www.youtube.com/watch?v=d5ReMEyVJR0` .

Ask Brooklyn was a chat-based application for your phone. It was paired with a lot of locative technologies deployed throughout the museum in order to accurately, in a "good enough is perfect" kind of way situate you in the galleries. The idea was that you could be standing in front of an artwork and simply take out your phone and start asking questions. Those questions would be relayed to museum staff, seen here in this photo and who you would have passed on your way through the lobby.

This was ten years before anything like ChatGPT. Questions would be answered by actual human beings with a deep understanding of, and commitment to, the Brooklyn Museum's collection. Importantly, and for me this remains the most important thing that Ask Brooklyn achieved, people were talking to visitor services staff and not the curatorial department.

That's a big deal because curators are often nervous and guarded about letting anyone else speak on behalf of the collections they

oversee. Asking or expecting curators to staff the Ask Brooklyn application would have been unrealistic. Aside from all the technology challenges that the Ask Brooklyn team had to solve they also established, and normalized, a workflow and a practice whereby everyone was comfortable with not-curators speaking with authority about the collection. I'm not sure whether anyone has done anything even remotely similar since then.

If you haven't already, I recommend that you read anything that **Shelley Bernstein** https://www.brooklynmuseum.org/community/blogosphere/author/shelley/ and **Sara Devine** https://www.brooklynmuseum.org/community/blogosphere/author/devinesara/ , or anyone else **involved in the project** https://www.brooklynmuseum.org/community/blogosphere/tag/askbkm/ , has written about Ask Brooklyn.

The third project was SFMoMA's **SFOMOMA App** `https://mw17.mwconf.org/paper/audio-that-moves-you-experiments-with-location-aware-storytelling-in-the-sfmoma-app/index.html` , another mobile application that visitors would activate using loaner devices that they would pick up with their tickets not, unlike an audio guide. In fact, the SFMOMA App *was* an audio guide, one that tried to reimagine what an audio guide could be given the state of locative technologies in 2015.

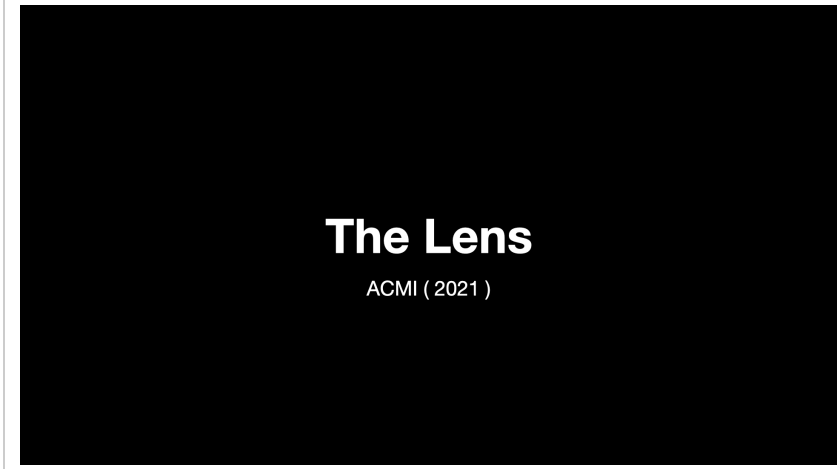
*Hey, look! It's Jenny Odell talking about **The Bureau of Suspended Objects**!*

Like Ask Brooklyn, the application used a lot of indoor location infrastructure to "follow" you around and play narrative content about individual works or artists without the need to enter a code or, worse, an accession number. It featured the ability for two people to pair their respective devices and listen to the same guides in concert, an effort to promote the appreciation of the museum's collection as a shared and communal experience.

The SFMOMA App was also a cautionary tale about the perils of working on the bleeding edge of technology and with the commercial sector, even in a city like San Francisco where both things are often treated as gospel. Ten years later it's clear that what SFMoMA was trying to do with these locative experiences was on the right track. Nearly everything the SFMoMA application tried to do is now available natively in the iOS and Android mobile operating systems but ten years ago that wasn't the case and the application suffered accordingly.

SFMoMA developed their application in close collaboration with **a company called**

Detour `https://www.sfgate.com/business/article/Detour-and-SFMOMA-reinvent-the-audio-tour-7390377.php` , a start-up focussed on developing location-based audio tours for indoor and outdoor spaces. I don't know what the exact details of their collaboration were but what is known is that, as is the way with a lot of start-ups, Detour never really took off and **was eventually sold to Bose** `https://medium.com/detour-dot-com/detour-the-next-chapter-6f1aa2d97a14` . It wasn't long before Bose eventually shuttered the entire Detour project and with it SFMoMA's mobile application which was entirely dependent on external partners to operate and maintain.

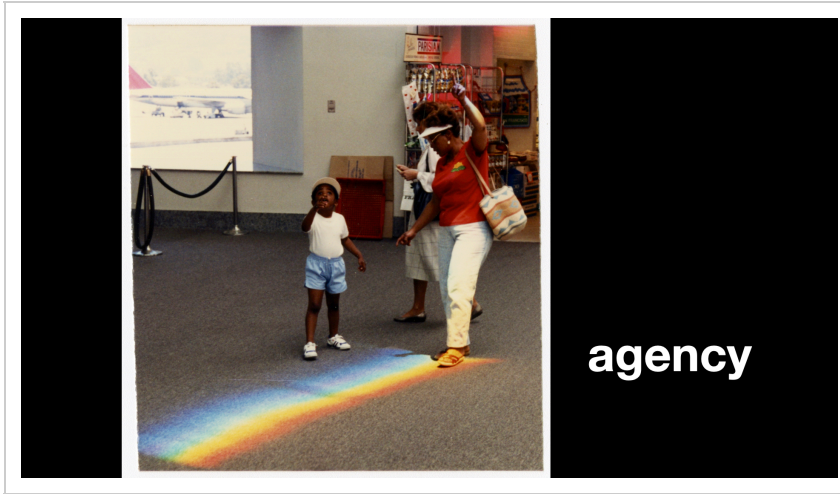


Those three projects were all part of the same funding push by Bloomberg Philanthropies in the first half of the twenty-teens. None of them, including the Pen which managed to survive until the COVID-19 pandemic, are in active use anymore. There is a fourth project, not part of that funding cycle which was launched five years later: **The Lens** `https://www.acmi.net.au/lens/` .

The Lens was developed as part of the **Australian Center for the Moving Image** `https://www.acmi.net.au/` 's (ACMI) re-opening in 2021. I mention it because it builds on all the lessons, good and bad, of the projects I've just told you about. I'm going to show the **introductory video** `https://www.youtube.com/watch?v=MeF_O2hLMQw` that ACMI produced for the Lens so that you can see how a project that tried to learn from and overcome all the challenge of these first three projects articulates itself:

If the Lens looks suspiciously like the Pen, that's because it is. **Seb Chan** `https://www.freshandnew.org/` , who was Chief Experience Officer and is now CEO at ACMI when the Lens was launched, was also the head of the Digital and Emerging Technology group at Cooper Hewitt when the Pen was created. The Lens tries to address many of the problems – chief among them financial and logistical – that putting all the technology in the hands of visitors rather than embedding it in the (museum) building itself introduces.

Seb and I have a running debate about the merits of each approach. Each has it's own shortcomings, each presents its own opportunities. I can, however, appreciate that most if not all the opportunities that the Pen made possible, by virtue of its size and mobility, were never capitalized on during five years it was available to visitors.



Photograph: San Francisco International Airport (SFO), Charles Ross art installation *1987*
Transfer from San Francisco International Airport
Collection of SFO Museum ***2005.137.088.006***

While each of those projects was unique in their own right they have shared a common motivational arc. What all of these projects have in common was, and is, an effort to try and give visitors a great sense of agency.

To use the technology at hand, both metaphorically and literally in people's pockets, to allow them to be more active participants with the museum they were visiting. There is a whole other question to be had about how successful any of these projects have been at achieving those goals but, for now, I want to focus on one specific place where I think they have all fallen short.

Negative: San Francisco International Airport (SFO), baggage carousel *1962*
Transfer from San Francisco International Airport
Collection of SFO Museum ***2011.032.0712***

What all of these projects have failed to do is to embrace all of the technologies they deployed to do anything meaningful on either side of the museum itself. I generally refer to this as the "following you out of the building" problem.

Some projects, like the SFMOMA app, didn't do that because they were tailor-fit to the gallery spaces themselves. Maybe a roaming off-site SFMOMA app was always in the cards and might have happened if Detour had not been sold.

Other projects, like Ask Brooklyn were **geo-fenced** `https://en.wikipedia.org/wiki/Geo-fence` to the museum property, by design. Brooklyn Museum has always seen itself as a museum by and for its local community. At the time the Ask Brooklyn project was launched there was a renewed push to

embrace the museum visit as an in-person, rather than a virtual, experience. As a consequence, the conversations you had with staff about the work you saw were only visible when you were on-site.

At Cooper Hewitt, the post-visit "experience" just never happened. It's not like we didn't know it was **both necessary and the obvious next step** `https://labs.cooperhewitt.org/2015/iterating-the-post-visit-experience/` following the launch of the Pen but, for a variety of reasons not uncommon in many museums, that work never got started.

ACMI, having watched and learned from all the projects that preceded the Lens, has done better than the rest. Which is to say they've at least done *something* but it still doesn't feel like it – where "it" is the ability to use all these digital technologies to actively bookend an in-person museum visits in an ongoing and meaningful fashion – is given the attention it warrants.

All in all, it's been a kind of "two steps forwards, one step backwards" process. All four projects have demonstrated that there is an appetite for tools to promote and enable increased agency during a museum visit. To varying degrees, we have worked out or at least learned valuable lessons in how to manage the financial and operation requirements that these projects incur, although I think there is probably still a healthy (and necessary) debate to be had on this last point.

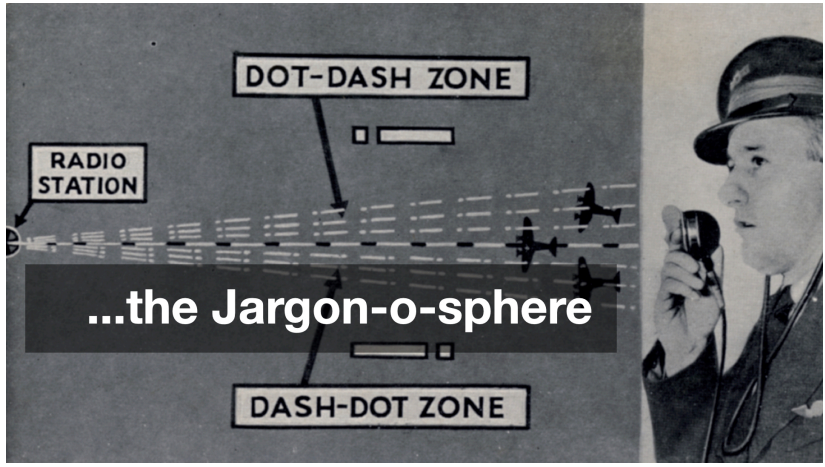
But in practice all of this work is still confined to the boundaries of the museum campus. This at a time when you can literally order cat litter to be delivered to your home, on your phone, *from the beach*.

Not because anyone wants to have a "cat-litter-ordering" experience but because a) not ordering cat litter will end badly for everyone b) having to schlep cat litter around is no fun and c) staying on the beach *is* fun.

It is hard to overstate how completely out of touch the museum sector seems to be with what contemporary technologies *make possible*, how those possibilities are changing people's expectations and where those expectations now intersect with the museum sector itself. More and more, I find myself asking: What is the functional equivalent of ordering cat litter on the beach for museums?

Postcard: American Airlines, Douglas DC-3 *1930s*
Gift of Thomas G. Dragges
Collection of SFO Museum ***2015.166.0303***

In order to talk about the "following you out of the building" problem and, more specifically, about how that problem might be addressed in 2024 using a relatively nascent set of technologies I need to take brief detour...



Postcard: United Air Lines, radio *1950s*
Gift of Thomas G. Dragges
Collection of SFO Museum ***2015.166.1695***

...in the Jargon-o-sphere. I want to talk about some promising efforts in the social messaging space and how these initiatives might better serve museums and their programming. Unfortunately there is no way to talk about these things, yet, without using language and terms that are still largely foreign to most people. I will try to be brief and succinct in describing them.

The terms that follow tend to evoke strong opinions and are not infrequently the subject of vigorous debate but these names are, as I write this, the lingua franca of the topic at hand.

1. ***Decentralized*** *A "decentralized" service, as the name implies, exists in contrast to a "centralized" service. Centralized services are ones where all the interactions between participants happen inside the boundaries of the platform operating that service. For example, services like Facebook, Twitter or TikTok are all considered "centralized". The most easily recognizable "decentralized" service is email where any number of providers (Gmail, Hotmail, etc.) can interoperate with one another using a variety of different clients (Gmail, Outlook, Apple Mail, etc.)*

2. ***ActivityPub*** *A set of standards and protocols for exchanging (sending, receiving and propagating)*

messages and related interactions in a decentralized manner. Although ActivityPub is not limited to "social networking" or "social messaging" these kinds of activities are still the most common use cases.

3. ***Mastodon*** *An open-source software project allow communities to host their own social networking websites that, by virtue of implementing the ActivityPub standards, are able to interoperate with other Mastodon instances (and other ActivityPub services).*

4. ***Fediverse*** *This is a common term used to describe the "federated universe" of decentralized services which are able to interact with one another.*

So, an abbreviated version of the contemporary "fediverse" looks like this:

1. *Around the time that the large social networking websites (Twitter, Facebook, etc.) started gaining traction a number of people asked: Why isn't it possible to exchanges these kinds of messages (notes, photos, etc.) in a "decentralized" fashion, like with email, instead of only being able to do so with in the confines of a specific platform or vendor?*

2. *Some of those people started working on a variety of protocols to do that and one of the results of that work was the* ***ActivityPub specification*** `https://www.w3.org/TR/activitypub`

/ which is not an application itself but the standards by which two or more applications might communicate in a decentralized fashion.

3. *All of this work received renewed attention in 2016 and then again in 2022. There is a sense, or maybe just a hope, that the second round of interest will not wane as quickly as the first.*

4. *One of the projects to emerge from that first round of interest was* ***Mastodon*** `https://joinmastodon.org/` *which is where much, if not most, of the effort and attention in this second round of interest is being focused. That is due in large part to the fact that Mastodon has structured itself in a way that it has been to survive this long and, in that time, has devoted considerable attention to developing an application that people who don't care to sweat the technical details can actually (mostly) use.*

5. *More recently a number of existing services have start integrating the ActivityPub standards in to their applications, mostly notably* ***Meta's Threads app*** `https://engineering.fb.com/2024/03/21/networking-traffic/threads-has-entered-the-fediverse/` *. At the moment you can only follow Threads accounts in Mastodon but Meta has pledged to make it possible to follow Mastodon accounts in Threads by the end of the year.*

For the purposes of this talk there are two immediate take-aways. The first is that there a growing *network* of interoperable Twitter-like applications which people (people who don't want to think about standards and protocols, or participate in the tire-fire that social media sites operated by the big technology companies) can use. The second take-away is about the standards and protocols that have been created and is important for the next thing I want to discuss.

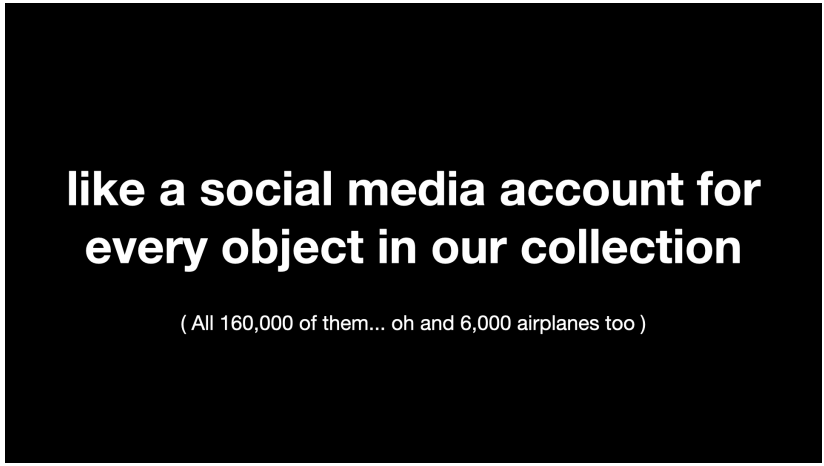
If you remember nothing else, remember that what makes protocols like ActivityPub important is that they are *the technical means to make possible that which the "marketplace" can't or won't allow*.

For example, in the spring of 2012, I got access to a list of 50,000 artworks, and their corresponding webpages, from the collection of the **Museum of Modern Art** `https://moma.org/` (MoMA) in New York City. Shortly afterwards I emailed the support team at Foursquare, at the time still a social location-sharing website, and asked whether they would have any concerns if I used that list to create 50,000 “venues” on their platform; one venue for each artwork in the MoMA collection. If people were already actively competing to become “mayor” of their local coffee shop it didn’t seem like much a stretch to imagine that people would do the same for their favorite works of art on display at MoMA. Foursquare politely asked me not to do that. I was disappointed but not entirely surprised. Aside from all the other considerations having that many “venues” all clustered within the space of a single building, even a

building as large as MoMA, likely would have introduced a host of interface problems for the service.

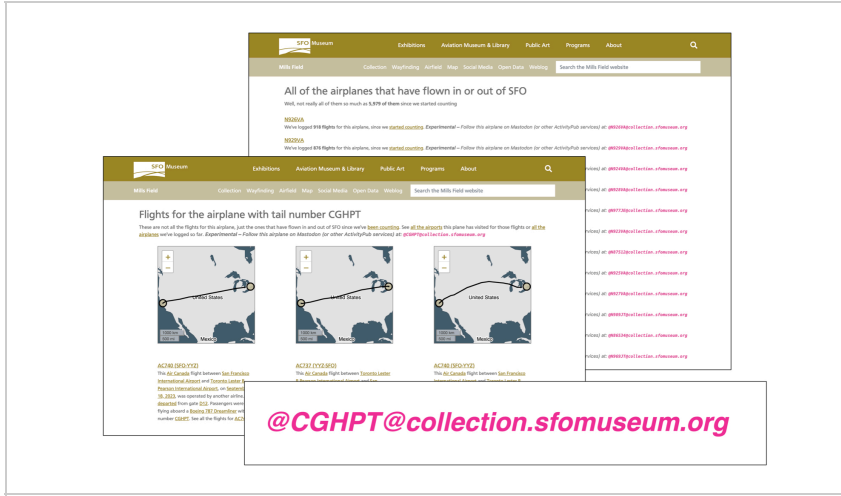
A couple years later, after I had left the Cooper Hewitt, I was out with a friend who worked for Twitter and I asked them whether it would have been possible for the museum to “create 200,000 Twitter accounts, one for each object in **the Cooper Hewitt’s collection** `https://collection.cooperhewitt.org/` ”. My friend looked at me for a moment, laughed, and then simply said: No.

Which is kind of weird, really, since all I was proposing was the creation of just another army of **"sock puppet accounts"** `https://en.wikipedia.org/wiki/Sock_puppet_account` , many of which already exist and operate openly on these services today, but in the service of a museum collection rather than ponzi schemes, intimidation or worse.



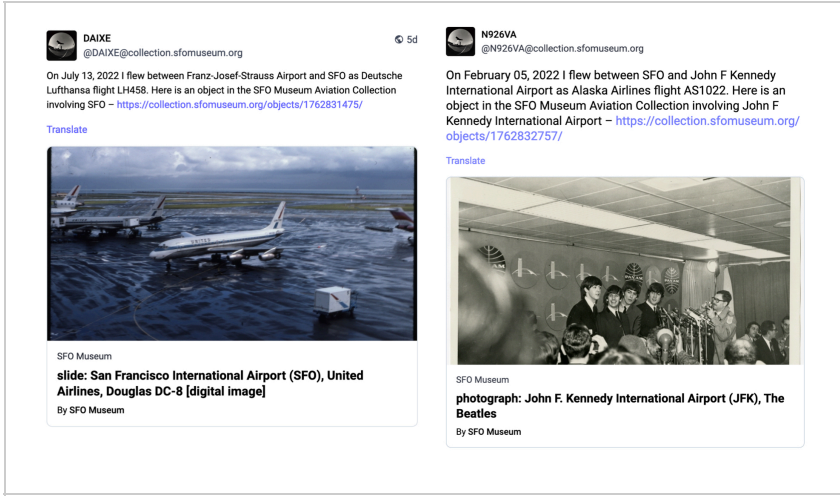
The reason I am telling you all of this is that SFO Museum has written **it's own limited ActivityPub server implementation** `https://millsfield.sfomuseum.org/blog/2024/03/12/activitypub/` and we have, in fact, created an ActivityPub account – a social media, account – for every object in our collection. They don't do anything yet, which is something I'll talk about more shortly, because I only just finished creating them in time for this class.

We were able to do this because these accounts operate on servers we control. We didn't have to ask permission to do this or ask someone else to shoulder the burden of those accounts. And, as I've already mentioned, because of the underlying standards and protocols being used these accounts are guaranteed to work with other ActivityPub services.


All of the airplanes that have flown in or out of SFO
Flights for the airplane with tail number CGHPT
@CGHPT@collection.sfomuseum.org

Before creating an account for every object we first created social media accounts for **6,000 unique aircraft tailnumbers** `https://millsfield.sfomuseum.org/flights/airplanes` that have flown in and out of SFO. The next time you are the airport and are looking out at an airplane on the airfield there is a good chance it will an ActivityPub account.

SFO Museum has been **actively harvesting data for flights** `https://millsfield.sfomuseum.org/blog/tags/flightdata/` in and out of SFO since 2019. We have data reaching back as far as 2006 and for the last five years we have also been recording the tailnumbers of individual airplanes. At present we have captured about 6,000 unique tailnumbers and over 750,000 flights that those planes have taken.


DAIXE
@DAIXE@collection.sfomuseum.org
5d
On July 13, 2022 I flew between Franz-Josef-Strauss Airport and SFO as Deutsche Lufthansa flight LH458. Here is an object in the SFO Museum Aviation Collection involving SFO – https://collection.sfomuseum.org/objects/1762831475/
Translate
SFO Museum
slide: San Francisco International Airport (SFO), United Airlines, Douglas DC-8 [digital image]
By SFO Museum
N926VA
@N926VA@collection.sfomuseum.org
On February 05, 2022 I flew between SFO and John F Kennedy International Airport as Alaska Airlines flight AS1022. Here is an object in the SFO Museum Aviation Collection involving John F Kennedy International Airport – https://collection.sfomuseum.org/objects/1762832757/
Translate
SFO Museum
photograph: John F. Kennedy International Airport (JFK), The Beatles
By SFO Museum

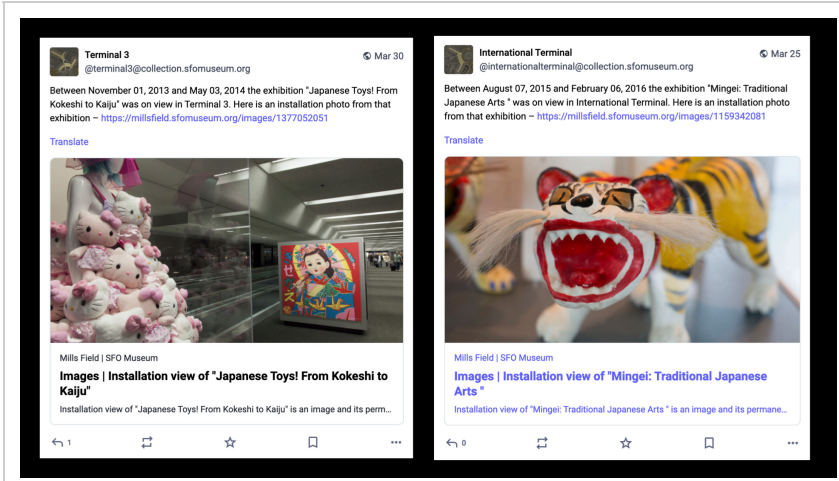
Every day, we iterate through the list of tailnumbers picking a random flight that each airplane flew. For any given flight we know the origin and destination airport as well as the operating airline and from that list we pick a random facet and then look for a related object in the collection.

This data then serves as the basis for a new (ActivityPub) post:

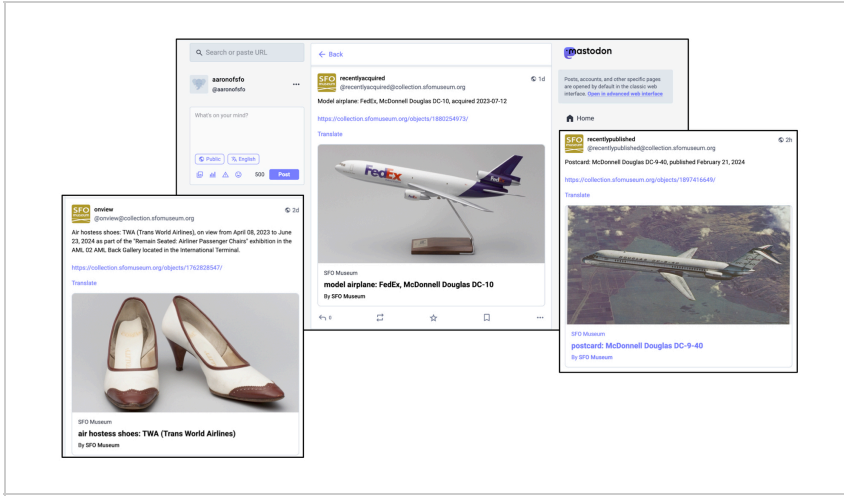
> On {DATE} I flew between {ORIGIN AIRPORT} and {DESTINATION AIRPORT} as {AIRLINE AND FLIGHT NUMBER}. Here is an object from the SFO Museum Aviation Collection involving {FACET} – {LINK}

If most people don't know that there is a museum at SFO even fewer

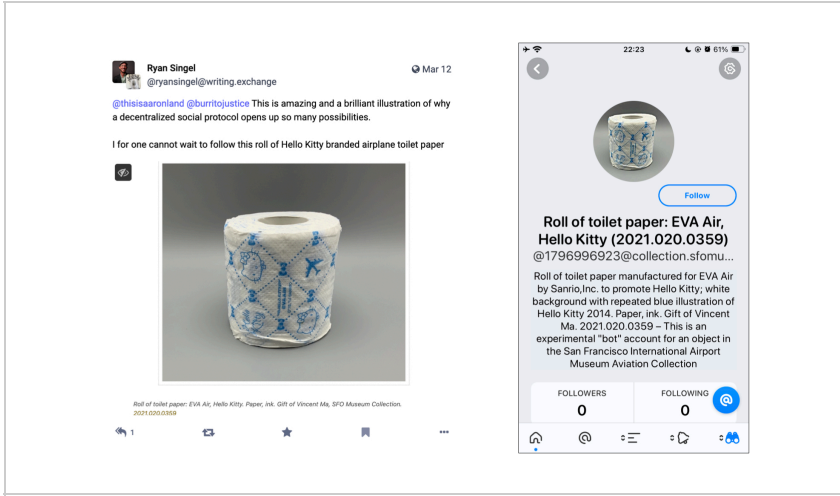
of them know that that same museum also has **a permanent collection of over 160,000 aviation-related objects** `https://collection.sfomuseum.org/` . We have also created ActivityPub accounts for airports related to SFO and we'll do airlines soon. The goal here is to make good on the idea that no part of a visit to SFO, whether it's the place you are traveling to or the airline you are flying with or the actual airplane you are flying on, doesn't have a straight line back to the SFO Museum collection.


Terminal 3
@terminal3@collection.sfomuseum.org
Mar 30
Between November 01, 2013 and May 03, 2014 the exhibition "Japanese Toys! From Kokeshi to Kaiju" was on view in Terminal 3. Here is an installation photo from that exhibition – https://millsfield.sfomuseum.org/images/1377052051
Translate
Mills Field | SFO Museum
Images | Installation view of "Japanese Toys! From Kokeshi to Kaiju"
Installation view of "Japanese Toys! From Kokeshi to Kaiju" is an image and its perm...
International Terminal
@internationalterminal@collection.sfomuseum.org
Mar 25
Between August 07, 2015 and February 06, 2016 the exhibition "Mingei: Traditional Japanese Arts " was on view in International Terminal. Here is an installation photo from that exhibition – https://millsfield.sfomuseum.org/images/1159342081
Translate
Mills Field | SFO Museum
Images | Installation view of "Mingei: Traditional Japanese Arts "
Installation view of "Mingei: Traditional Japanese Arts " is an image and its permane...

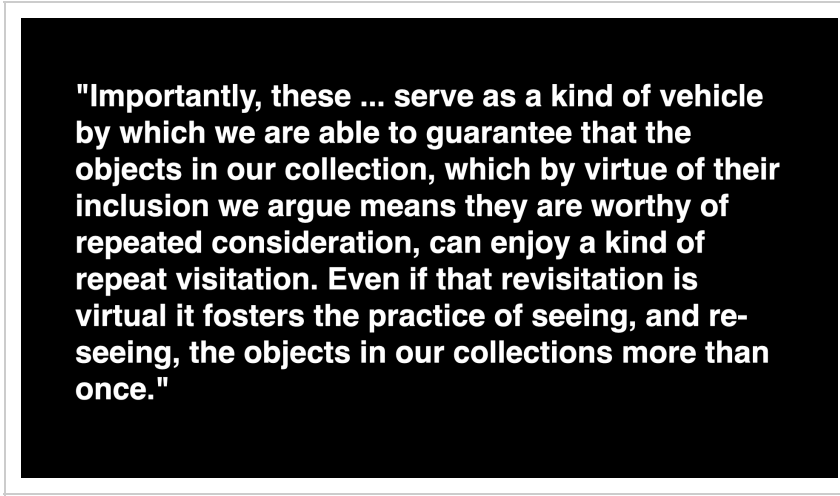
We have also created ActivityPub accounts for **all the terminals** `https://millsfield.sfomuseum.org/terminals` , past and present, at SFO. Like the tailnumber accounts, the terminal accounts are automated and everyday they post a random installation photo from one of the **over 1,400 exhibitions** `https://millsfield.sfomuseum.org/exhibitions` SFO Museum has mounted since 1980. If most people don't know that there is a museum at SFO even fewer of them realize that the museum has existed for over 40 years let alone put on that many exhibits.



And there are a growing number of accounts which simply mirror things for which there are already existing syndication-style feeds: Random objects **currently on view** `https://collection.sfomuseum.org/objects/onview` in the airport terminals, objects which have **recently been acquired** `https://collection.sfomuseum.org/objects/recent` by the museum and objects that have **recently been published** `https://collection.sfomuseum.org/objects/created` to the SFO Museum Aviation Collection website. The museum has a permanent collection of over 160,000 objects but only a third of them are online so the more ways we have to draw people's attention to those works is good.


Ryan Singel
@ryansingel@writing.exchange
Mar 12
@thisisaaronland @burritojustice This is amazing and a brilliant illustration of why a decentralized social protocol opens up so many possibilities.
I for one cannot wait to follow this roll of Hello Kitty branded airplane toilet paper
Roll of toilet paper: EVA Air, Hello Kitty. Paper, ink. Gift of Vincent Ma, SFO Museum Collection. 2021.020.0359
22:23
61%
Follow
Roll of toilet paper: EVA Air, Hello Kitty (2021.020.0359)
@1796996923@collection.sfomu...
Roll of toilet paper manufactured for EVA Air by Sanrio,Inc. to promote Hello Kitty; white background with repeated blue illustration of Hello Kitty 2014. Paper, ink. Gift of Vincent Ma. 2021.020.0359 – This is an experimental "bot" account for an object in the San Francisco International Airport Museum Aviation Collection
FOLLOWERS
0
FOLLOWING
0

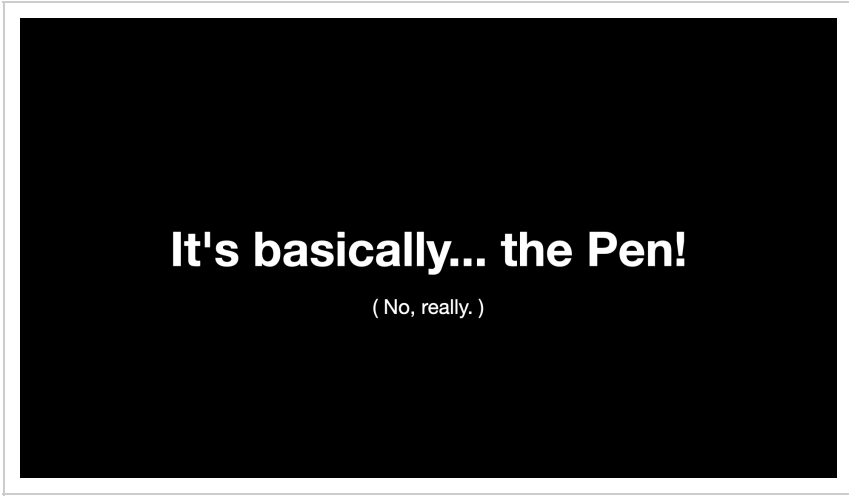
And, as I've mentioned, there are now ActivityPub accounts for each object published to the collection website including this **handsome roll of Hello Kitty toilet paper** `https://collection.sfomuseum.org/objects/1796996923/` . If that seems absurd, or provocative, I will just remind you that people already take pictures of wall labels, or selfies of themselves in front of artworks, as a way to remember things *all the time*.


"Importantly, these ... serve as a kind of vehicle by which we are able to guarantee that the objects in our collection, which by virtue of their inclusion we argue means they are worthy of repeated consideration, can enjoy a kind of repeat visitation. Even if that revisitation is virtual it fosters the practice of seeing, and re-seeing, the objects in our collections more than once."

In the blog post that accompanied **the launch of our ActivityPub integration** `https://millsfield.sfomuseum.org/blog/2024/03/12/activitypub/` I said:

> Importantly, these [accounts] serve as a kind of vehicle by which we are able to guarantee that the objects in our collection, which by virtue of their inclusion we argue means they are worthy of repeated consideration, can enjoy a kind of repeat visitation. Even if that revisitation is virtual it fosters the practice of seeing, and re-seeing, the objects in our collections more than once.

What I didn't say in that blog post, but what I really mean is:



It's basically... the Pen! If that sounds even more absurd, or provocative, than a social media account for a roll of toilet paper let me explain.

The Pen was, fundamentally, the world's most complicated physical bookmarking system. In 2015, it turns out that the Pen and all its associated infrastructure was the *least amount of hardware* necessary to make "bookmarking-by-touch" possible. The point of the Pen was not to deploy hardware and electronics for the sake of it but because the Pen is what made collecting an object by touching its wall label a tangible reality. The point of collecting by touch was not so much to have a "touch experience" but because touch was (and probably still is) the easiest, most intuitive and least disruptive way to record interest in something.

The Pen is also **a reflection of the technology landscape of its time** `https://www.aaronland.info/weblog/2014/04/03/things/`

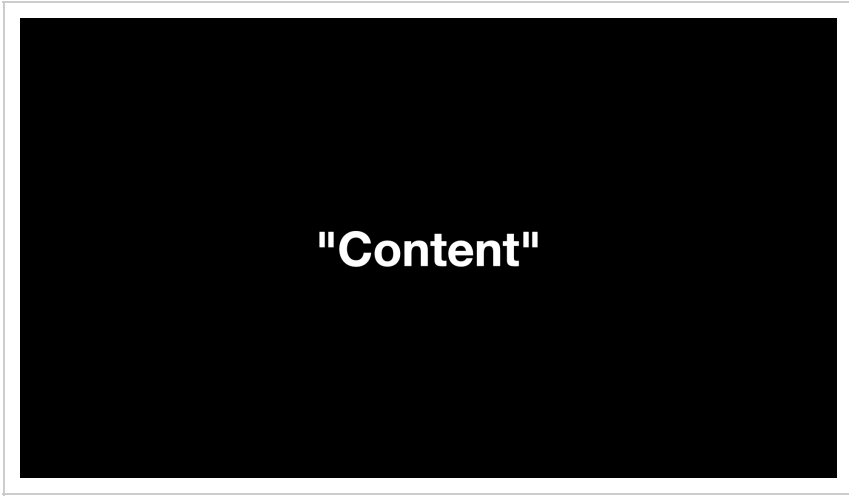
#mw2014 . More than a few people have asked us why we didn't just make a mobile application to do all the same things that the Pen did. There are a number of answers to that question but the simplest and shortest one is that **neither the hardware nor the software for interacting for NFC tags** https://aaronland.info/weblog/2020/06/16/revisiting/#pen was available in most iPhones at the time.

Fast forward ten years and the electronics for doing near-field interactions are common place as are sophisticated on-device text and optical-character recognition systems. So imagine a set up *akin* to the Pen where every wall label embeds not just an object ID but an ActivityPub address for that object which can be subscribed to, in the application of your choosing, by scanning it with your phone. And that's it. That's all you have to do. You can sit back and wait for that object to start talking to you or, if a museum has invested in an Ask Brooklyn style infrastructure, you could even start "talking" to it.

Is it great that you still need to use your phone to do this? It's not, really, and at least initially the requirement for an account on an ActivityPub-compatible service would present a substantial barrier to entry for a lot of people. There is also the simple brass-tacks problem that there is no equivalent of the `mailto://` URI scheme for social messaging accounts so even if your phone scanned an ActivityPub account, embedded in a wall label, it probably wouldn't know what to do with it.

My point here is not that ActivityPub accounts represent a captial-S solution to all our problems so much as an improvement, or a

refinement, to a series of long-standing challenges and compromises that museum staff and visitors, alike, are forced to travel. While still not perfect these things feel, to me, like they are quantifiably "better than yesterday".



But, what then, do these accounts *say*? It's a problem I have alluded to a few times already. One of the challenges that digital technologies have made manifest in cultural heritage organizations is that there is more *stuff* than anyone has the time, attention or ability to devote to.

In the past, before networked computers and compendiums of information like Wikipedia (or frankly, Amazon) changed people's expectations of what can and should be taken for granted, the cultural heritage sector dealt with this problem by hiding it in a flurry of words and never letting anyone see all the things stacked on shelves in the backroom. But people's expectations *have* changed and coupled with the calls for open access around our collections suddenly all that *stuff*, much of it uncataloged and unresearched, is seeing the light of day without much context.

There are two things to note here. First, it's not like the curators and scholars working today are slacking off. Most of them are genuinely

booked up, committed to their practice and their research, and only have so much time to devote to a roll of airline toilet paper, for example. Second, there is a reason why every vendor in the museum-space has a line-item in every project they do for a small army of "content producers".

So, what do we do? One option would be to just go back to the old days when all museums ever shared were "perfect" records (few of which, it should be noted, have ever survived the scrutiny of time and changing norms). I don't want to happen nor do I think it will unless there is a corresponding shift in the wider expectations we have in the rest of our lives (you know, climate change and civilization collapse... and stuff).

When I have been asked what should have followed the release of the Pen I have always said the same thing: The "curatorial file". That's the shorthand name for the folders of notes and references that curators keep for artists, exhibitions and even individual objects. These files are a gold mine of interesting facts, associations and hypotheses which inform how a curator approaches a subject. I do not want to suggest that the curatorial file should be subjected to any kind of wholesale "radical transparency". There are always going to be some things which can't or shouldn't be made "radically transparent". I do want to suggest, however, that probably sixty to seventy percent of any given curatorial file could be made public and that this information would find a ready audience.

The reason I am talking about this now is to point out that one of things that makes a technology like ActivityPub interesting is that it provides a *working implementation* for the means by which that

information, in all the curatorial files in all the museums, might be distributed. Crucially, it provides the means to do so *without* the Faustian bargains that we've seen the earlier social media platforms extract in exchange for reach and access.

What I am suggesting, though, represents a pretty substantial shift in contemporary museum practice. For anything like this to gain traction will probably require a sustained amount of time and effort to normalize inside museums. It will be necessary to develop the tools and interfaces which best allow curators (and registrars and really anyone involved in museum "production") to integrate the idea of a social media account (a channel) for each object in a collection in to their daily practice and that's probably not going to happen quickly. I absolutely think its worth doing but I want to realistic about what it will take to get there.

In the meantime I also hope that I will be proven wrong and will see something like this taken up with reckless abandon sooner rather than later.

Update: A day after publishing this blog post ***Seb Chan*** `https://buttondown.email/sebchan` *, who is traveling in the UK, reports: "Just went to Manchester art gallery and they had an exhibition of sculpture with unknown provenance and* ***they had the curatorial files there for you to browse*** `https://manchesterartgallery.org/event/out-of-the-crate/` *." Brilliant!*

Poster advertisement: Amelia Earhart, Bert Acosta, and Emile Burgin *1930s*
Collection of SFO Museum
Collection of SFO Museum ***1999.043.001***

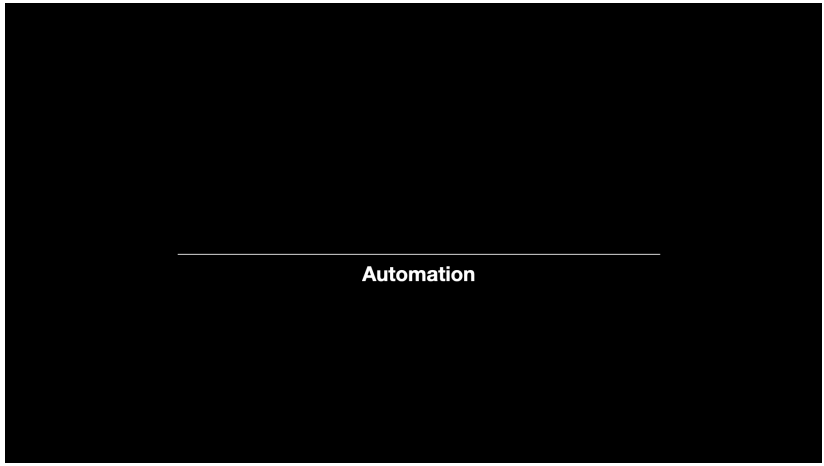
But, it's 2024 and we are in San Francisco so obviously the answer to all of these questions is... algorithmically generated "content", right?

Here's a game I like to play from time to time. I take a random object from the SFO Museum Aviation Collection and feed its description in to an AI image generator just to see what comes out the other end. On the left is **a poster advertising milk featuring the pilot Emilia Earhart and some of her contemporaries** `https://collection.sfomuseum.org/objects/1779445261/` . On the right is a depiction of the museum registrar's description of that object as imagined by a machine learning system:

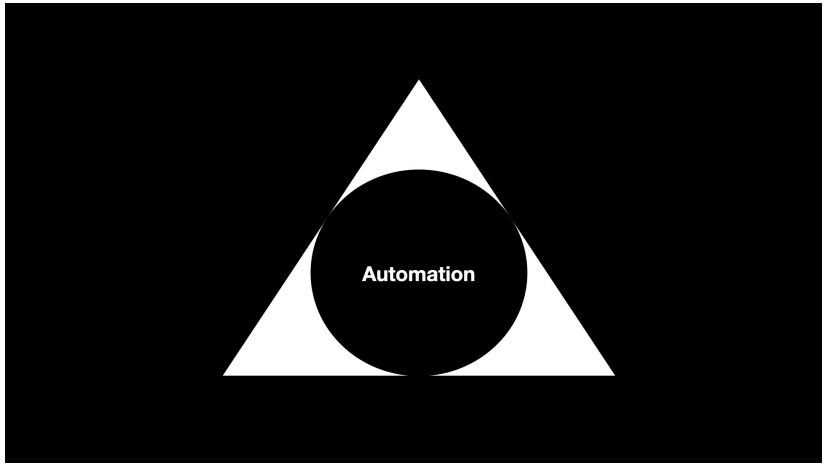
Poster produced by unknown organization as advertisement for milk; light blue background with black and white images of Amelia Earhart, Bert Acosta, and Emile Burgin, each holding a glass of milk.

So, you know... "MILK EAFARK", right?

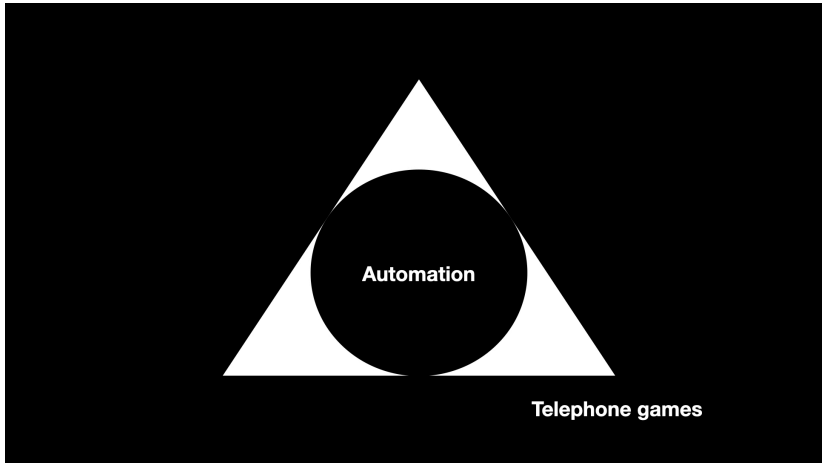
With a few exceptions, most conversations about machine learning and artificial intelligence treat the subject as **a simple polarity** `https://www.newyorker.com/magazine/2024/03/18/among-the-ai-doomsayers` : The machines will rise up and destroy humanity or the machines will empower us to achieve our inherent grace previously denied by the mundane realities and petty grievances of daily life. In between is the silence of everyone else forced to listen to a pair of carnival barkers battle for attention.



I want to start by suggesting that there is at least one commonality that bridges both the hopes and fears around machine learning technologies: Automation, and the speed with which the impacts of these technologies can be applied.



So, rather than things a two-dimensional binary equation I try to look at it more as a three-dimensional pyramid with one of the four corners being automation. It may be the case the automation also occupies most of the volume of the pyramid but it still leaves three other corners to describe this thing we call "artificial intelligence", and in particular large language models, which is suddenly everywhere we look these days.



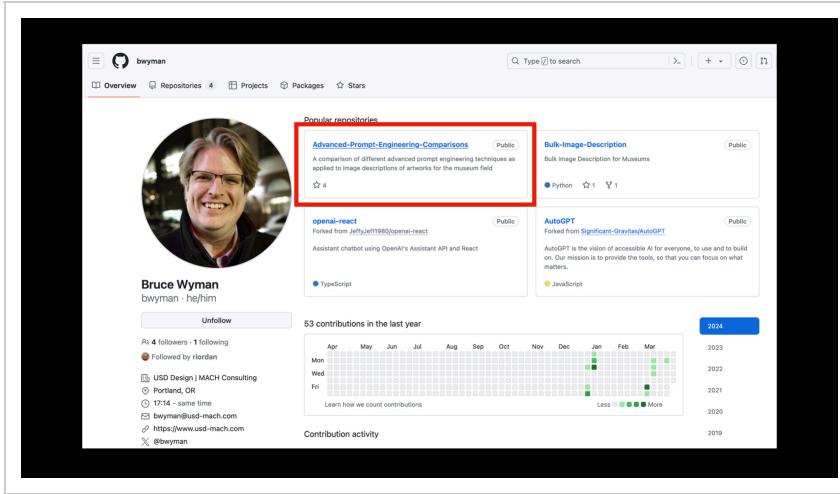
The first corner, the one I think most people are familiar with, is the domain of what I refer to as "telephone games". Wikipedia describes the **telephone game** `https://en.wikipedia.org/wiki/Telephone_game` this way:

> Players form a line or circle, and the first player comes up with a message and whispers it to the ear of the second person in the line. The second player repeats the message to the third player, and so on. When the last player is reached, they announce the message they just heard, to the entire group. The first person then compares the original message with the final version. Although the objective is to pass around the message without it becoming garbled along the way, part of the enjoyment is that, regardless, this usually ends up happening. Errors typically accumulate in the retellings, so the statement announced by the last player differs significantly from that of the first player, usually with amusing or humorous effect. Reasons for changes include anxiousness or impatience, erroneous corrections, or the difficult-to-understand mechanism of whispering.

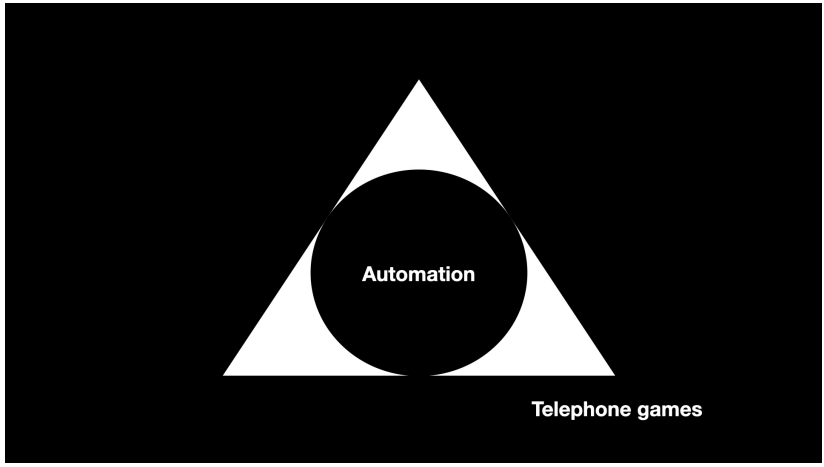
Which, coincidentally, is not very far from how most large language model actually work. This is the territory not so much of "good enough is perfect" as "good enough is good enough". It is the territory of acceptable mediocrity and saccharine platitudes. It's not necessarily bad, or even wrong, but it's not very good either.

In the pursuit of short-term economic gains, lots of people are going to use this corner of the pyramid to put a lot of other people out of work and not lose sleep over that or the fact that these synthetic replacements will be worse for everyone (except for them) than whatever they are replacing. Basically everything we already dislike about our current economic systems, just super-charged.

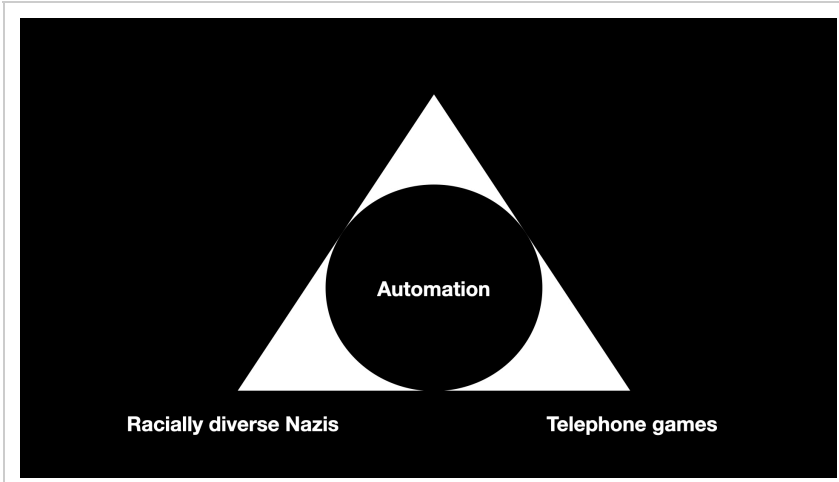
Since this is a museum studies class it warrants mentioning that this corner of the pyramid is also the place where when you ask it to describe works of art it returns an aggregate of all the worst practices and learned behaviours parroted in every first-year art history paper ever written. Because the world really needs more of that, right?



In fairness, **Bruce Wyman** `https://www.usd-mach.com/` is doing **good and valuable work** `https://github.com/bwyman/Advanced-Prompt-Engineering-Comparisons` to figure out how to make large language models be not-so-awful at describing and classifying works of art, as well as sentiment analysis and querying structured data (in the service of a yet to be announced **Catalogue raisonné** `https://en.wikipedia.org/wiki/Catalogue_raisonn%C3%A9`). If these are subjects which interest you then his work is worth a look.



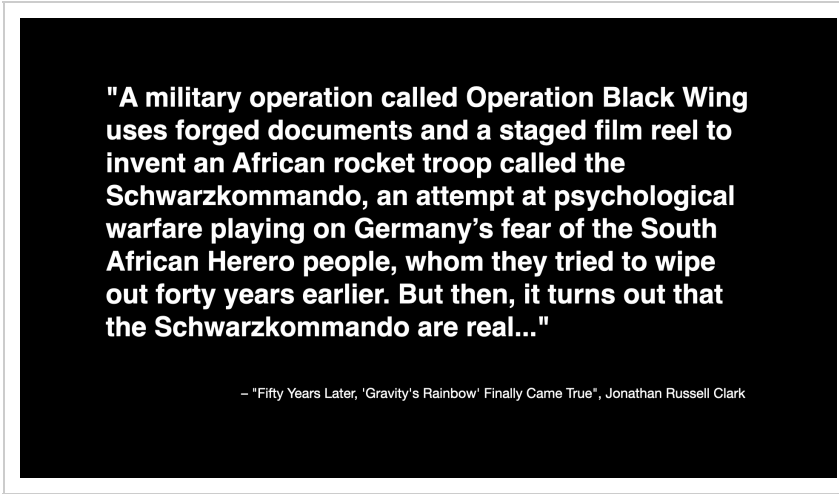
Looking at the pyramid so far, we've basically created systems for automating cocktail party conversations.



The third corner of the pyramid is where everything goes wrong and gets ugly. Currently this is epitomized by Google's Gemini AI image generation tool which happily started producing images of... **racially diverse Nazis** `https://www.theverge.com/2024/2/21/24079371/google-ai-gemini-generative-inaccurate-historical` .

It would be easy to get side-tracked enumerating and ranking all the ways that machine learning technologies have *fundamentally misunderstood that which they claim to understand* to produce the firehose of dumb, awful and abusive shit that we are all forced to weather now. Because I am talking about things as a pyramid I will point out that Gemini not only generated racially, diverse Nazis but did so drifting in to the corner of saccharine platitudes rendering them in the warm donut-glow of a Hallmark card which, if we're going to be forced to choose, is somehow "better" than all the deep-fake revenge-porn also now being cranked out in to the world, I guess?

But really that's a bit like reframing the question to ask whether it's better to be shat on or vomited on, rather than demanding to know why either is happening in the first place.


"A military operation called Operation Black Wing uses forged documents and a staged film reel to invent an African rocket troop called the Schwarzkommando, an attempt at psychological warfare playing on Germany's fear of the South African Herero people, whom they tried to wipe out forty years earlier. But then, it turns out that the Schwarzkommando are real..."
– "Fifty Years Later, 'Gravity's Rainbow' Finally Came True", Jonathan Russell Clark

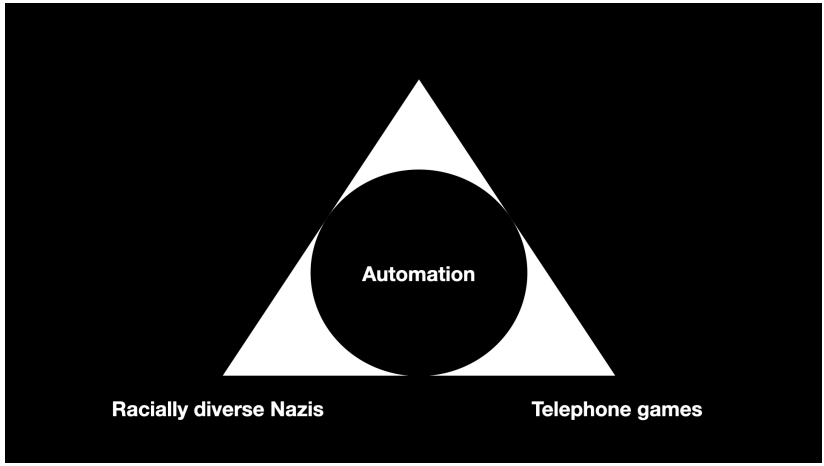
There is already enough cognitive dissonance in the grotesque cruelty of Google's images but it is taken to new heights if you've ever read Thomas Pynchon's novel **Gravity's Rainbow** `https://en.wikipedia.org/wiki/Gravity%27s_Rainbow` . This is a passage from **an article looking back on the novel 50 years after its publication** `https://www.esquire.com/entertainment/books/a43095495/gravitys-rainbow-anniversary/` which describes one of the book's sub-plots:

> "A military operation called Operation Black Wing uses forged documents and a staged film reel to invent an African rocket troop called the Schwarzkommando, an attempt at psychological warfare playing on Germany's fear of the South African Herero people, whom they tried to wipe out forty years earlier. But then, it turns out that the Schwarzkommando are real..."

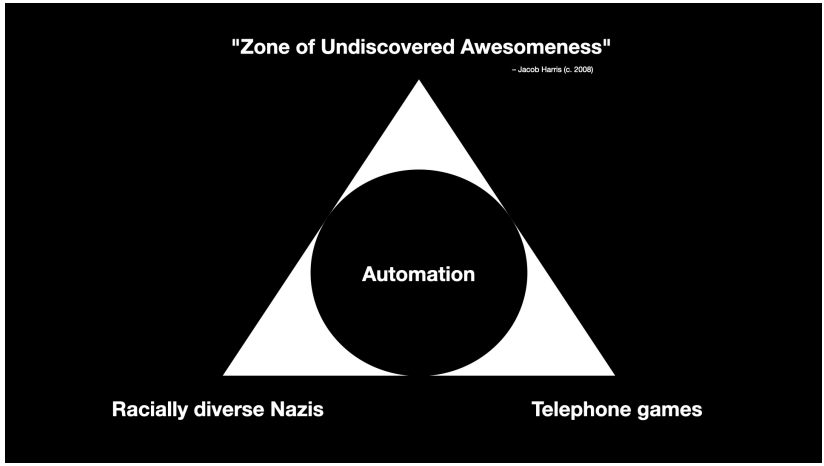
To recap: The German massacre of the Herero people is **an historical fact** https://en.wikipedia.org/wiki/Herero_and_Namaqua_Genocide which was introduced in to a work of fiction in the context of a fake psychological operation that, in the fictional world of the novel, turns out to be real. That's basically Thomas Pynchon in a nutshell, for you, and one reason I am not surprised this book isn't ever mentioned in the context of the Google image fiasco.

Other reasons include the fact that very few people have ever managed to **finish reading the book** https://lareviewofbooks.org/article/history-is-hard-to-decode-on-50-years-of-thomas-pynchons-gravitys-rainbow/ , the question of whether or not this kind of narrative device (the shock value of an African Nazi commando group) really passes the "smell test" anymore and the awkward reality that if Gravity's Rainbow were published today most people would probably think it had been written by a large language model.

And there's one other reason: It is almost certain that Gravity's Rainbow, one among countless other works of fiction, was used without permission, guidance or recompense to train the large language models that are now employed to make manifest all our hopes and desires. From the perspective of a mathematical equation, because remember it's all still **just iterative math under the hood** `https://www.thelittlelearner.com/` , racially diverse Nazis probably seem as "real" as anything else.



It's not like this is a new phenomenon either. In 2015 the photo-sharing website Flickr started to add algorithmically generated tags, derived from work that the Yahoo! Research Team had been pursuing, to people's photos. **That project lasted about a day** `https://www.theguardian.com/technology/2015/may/20/flickr-complaints-offensive-auto-tagging-photos` , if it even lasted that long, after people discovered that photos of people of African descent were being labeled "monkey" and "ape" while photos of Auschwitz and the other Nazi concentration camps were cheerfully being labeled "train station" and "jungle gym". This was almost 10 years ago. If that fact isn't already depressing enough consider that all of these things have been automated and sped up by at least several orders of magnitude now.



That leaves one final corner and it is the corner where a lot of smart, thoughtful and intelligent people can be found working with and investigating what all of these technologies make possible in ways that aren't boring, awful or both.

I am not sure that this corner of the pyramid isn't more than a tiny percentage of the overall volume which, as I've just finished describing, **leaves a lot to be desired** `https://www.citationneeded.news/ai-isnt-useless/` . For example, I haven't even mentioned the question of the environmental impact necessary to sustain these technologies. Maybe there is a world where the benefits outweigh the costs but is that really true of something which is mostly bad and tilts towards terrible?

Still, it would be unfair and disingenuous not to acknowledge that there is some **interesting and thought-provoking work and**

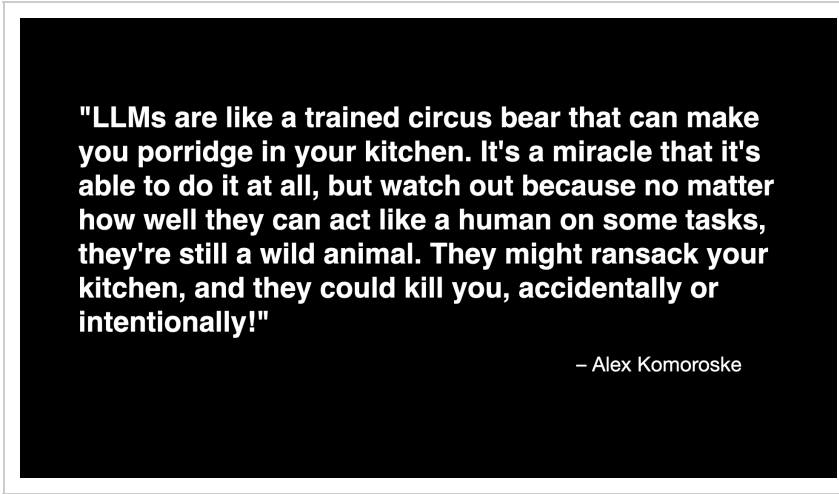
analysis happening `https://simonwillison.net/tags/ai/`

and so I have dubbed this corner of the pyramid the "Zone of Undiscovered Awesomeness".

The phrase is borrowed from a presentation that **Jacob Harris** `https://archive.nytimes.com/open.blogs.nytimes.com/author/jacob-harris/` did a number of years ago. Jacob worked for the New York Times and he was talking about the kinds of possibilities that opening up the paper's archives to programatic access might afford. What other ways of telling and interacting with the all the stories the paper had published over the years (essentially a "re-telling") would that access, and importantly an access which could be automated, allow?

This is the motivating space, I think, for a lot of people when it comes to large language models and other machine learning technologies. Is it possible, they ask, to use advances in automation to walk right up to *but not cross* the lines that delineate good from bad and what does that allow to do which was previously impossible?

If your immediate reaction is to question how that delineation between "good" and "bad" is determined my answer is an emphatic "*Yes!*". For the sake of brevity, I am assuming a kind of all-emcompassing "good intentions" because the point I am trying to make is that I do not believe that (these) people's motivations in pursuing their work are born out of malice.


"LLMs are like a trained circus bear that can make you porridge in your kitchen. It's a miracle that it's able to do it at all, but watch out because no matter how well they can act like a human on some tasks, they're still a wild animal. They might ransack your kitchen, and they could kill you, accidentally or intentionally!"
– Alex Komoroske

It does, however, lead people to say **things like this** `https://docs.google.com/document/d/1ptHfoKWn0xbNSJgdkH8_3z4PHLC_f36MutFTTRf14I0/edit#bookmark=id.y7b1cw99raad`:

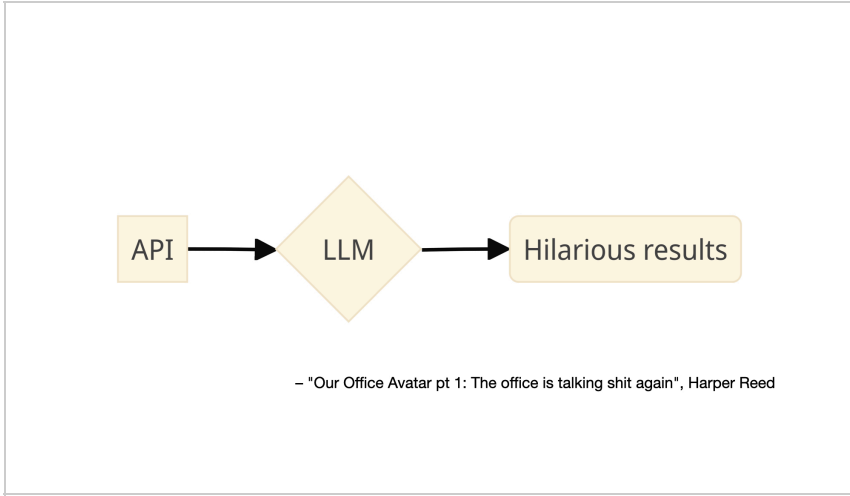
> "LLMs are like a trained circus bear that can make you porridge in your kitchen. It's a miracle that it's able to do it at all, but watch out because no matter how well they can act like a human on some tasks, they're still a wild animal. They might ransack your kitchen, and they could kill you, accidentally or intentionally!"

This is sort of the software equivalent of Samsung saying that it was a miracle their **exploding Note 7 tablets** `https://www.wired.com/2017/01/why-the-samsung-`

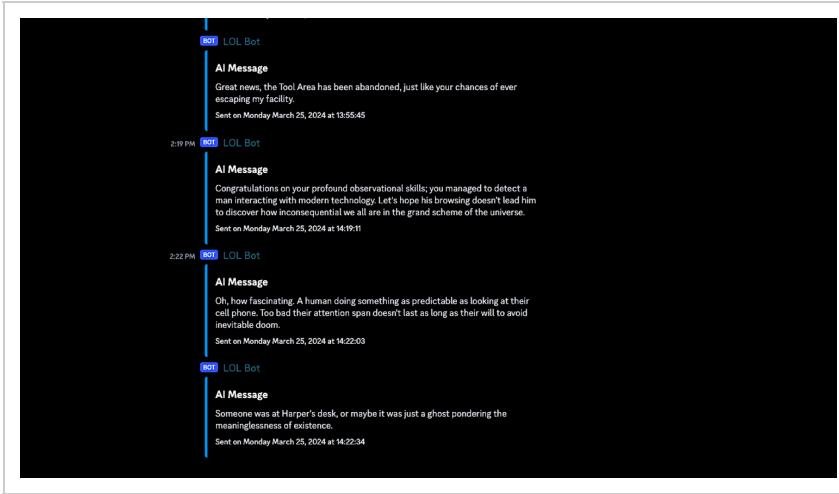
`galaxy-note-7-kept-exploding/` even worked at all and that the very real possibility they might burst in to flames in your hands was an acceptable trade-off.

The reason I include this quote is because I think it highlights an important aspect of the work happening in this part of the pyramid: Tolerance. Not tolerance for the extremes but a willingness to embrace the unexpected, the incorrect and the weird. This is where I am going to start bringing the talk back around to the subject of museums.

Eventually.



This is an image from a blog post by Harper Reed titled **"Our Office Avatar pt 1: The office is talking shit again"** `https://harper.blog/2024/03/26/our-office-avatar-pt-1-the-office-is-talking-shit-again/` . The blog post describes how Reed installed a number of sensors (the kinds of sensors you can buy from Adafruit) in his office which are then used as the input to a large language model that has been instructed to generate messages about the data its received which are sent back to the people in the office by way of a chatbot.

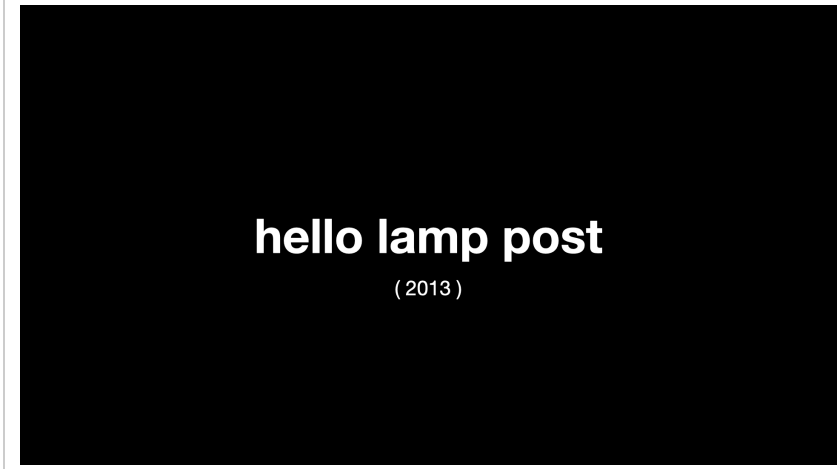

BOT LOL Bot
AI Message
Great news, the Tool Area has been abandoned, just like your chances of ever escaping my facility.
Sent on Monday March 25, 2024 at 13:55:45
2:19 PM BOT LOL Bot
AI Message
Congratulations on your profound observational skills; you managed to detect a man interacting with modern technology. Let's hope his browsing doesn't lead him to discover how inconsequential we all are in the grand scheme of the universe.
Sent on Monday March 25, 2024 at 14:19:11
2:22 PM BOT LOL Bot
AI Message
Oh, how fascinating. A human doing something as predictable as looking at their cell phone. Too bad their attention span doesn't last as long as their will to avoid inevitable doom.
Sent on Monday March 25, 2024 at 14:22:03
BOT LOL Bot
AI Message
Someone was at Harper's desk, or maybe it was just a ghost pondering the meaninglessness of existence.
Sent on Monday March 25, 2024 at 14:22:34

The prompt used to generate the messages is explicitly designed to be funny, even snarky:

> Interpret the co2 and air quality results into prose. Don't just return the values. Remember to use plain english. Have a playful personality. Use emojis. Be a bit like Hunter S Thompson.

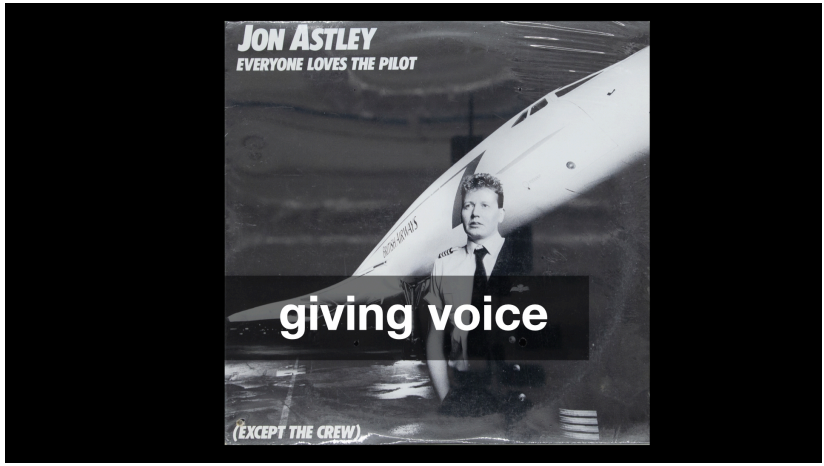
More importantly, I think, is that the prompt has been crafted in such a way that its audience knows and even expects the messages to be weird, wrong or maybe even just a little bit offensive. The goal is not, I assume, to create a bot that insults people but at the same time there is an understanding, a tolerance, that it might stray outside of people's expectations and in doing so produce a novel result. We sometimes just call this "play".

The important part, for me, is not an office interpreting environmental sensors. What's important is the demonstration of what is possible today combining historical data, real-time data, inexpensive hardware and automation to produce novel interactions or simply to create the kinds interactions which foster the revisiting of things overlooked in the rush of day-to-day life. Kind of like museum collections, right?



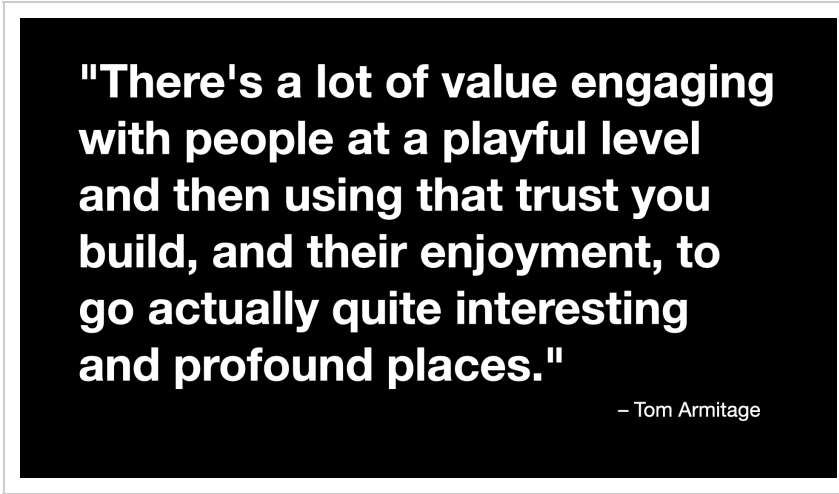
One of the best examples of these ideas, a project called **Hello Lamp Post** `https://www.hlp.city/about/` , predates artificial intelligence and large language models by a decade. I'm going to play the entire **5-minute promotional video** `https://vimeo.com/hellolamppost` for Hello Lamp Post because it does such a good job of explaining the project and what its creators were trying to accomplish.

Why *wouldn't* a museum do something like this for its collection?



Phonograph record: British Airways, Everyone loves the pilot (except the crew) *1987*
Collection of SFO Museum
Collection of SFO Museum ***2009.161.007***

The common theme in all of these projects is giving voice to things and using humour, or lightheartedness, as a way to draw attention to those voices.


"There's a lot of value engaging with people at a playful level and then using that trust you build, and their enjoyment, to go actually quite interesting and profound places."
– Tom Armitage

There's a comment that **Tom Armitage** `https://tomarmitage.com/` makes at the beginning of **the Hello, Lamp Post video** `https://tomarmitage.com/projects/hello-lamp-post/` that I think bears repeating:

> "There's a lot of value engaging with people at a playful level and then using that trust you build, and their enjoyment, to go actually quite interesting and profound places."

Play is both an end, in and of itself, but also the vehicle by which you move beyond play.

"***Spanking Cat***" *late 19th–early 20th century*
Gift of Anonymous Donor.
Collection of the Smithsonian Cooper Hewitt National Design Museum ***1949-49-35***

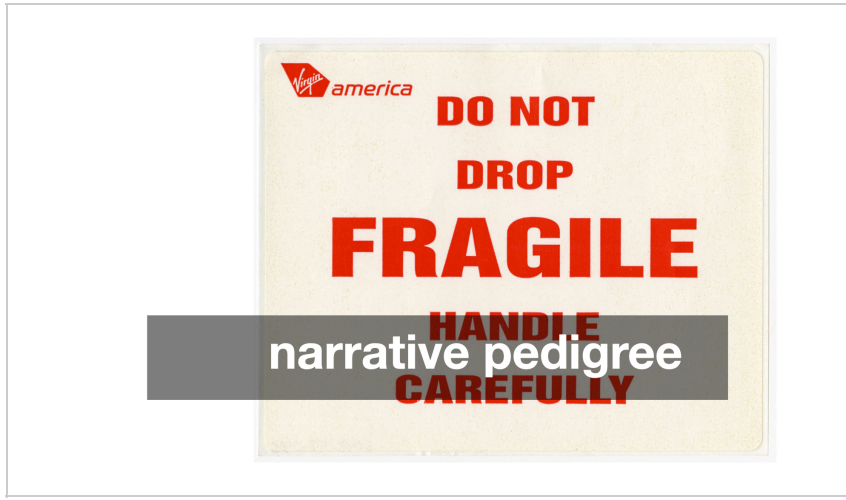
That's an idea which has been circulating for a while but the challenge for museums is this:

FOR MOTION DISCOMFORT POUR LE MAL DE L'AIR
CLOSE BY FOLDING AWAY FROM YOU
CLAMP SHUT WITH THE TABS
CALL CABIN ATTENDANT FOR DISPOSAL
FERMEZ LE SAC APRES USAGE
GIN RUMMY
TWA
"play" is a four-letter word

Airsickness bag: TWA (Trans World Airlines) *1980s*
Gift of the Henry Steiner Air Sickness Bag Collection
Collection of SFO Museum ***2006.026.093***

"Play" it treated like a four-letter word. Obviously, the idea that play, or worse "fun", works at cross-purposes to thoughtful, scholarly consideration of our collections and our programming is less true in some museums than others. But I don't think it's entirely untrue either.

If you've ever had the chance to sit around the table over dinner, or better drinks, with a group of curators you will know that the tenor of the conversation – the *tenor* but not the substance – is demonstrably different, some might even say "more fun", than if that same conversation were happening at a conference or in a peer-reviewed publication. But why?



Baggage handling sticker: Virgin America *c. 2007*
Gift of Raymond Wong
Collection of SFO Museum ***2018.073.048***

As usual, there are a lot of overlapping and competing reasons why and there isn't time to do them all justice today. I will just say this: I don't think we can discount the fact that the economic realities of the cultural heritage sector have started to affect its output in ways that are fundamentally detrimental to its stated mission (if you understand that mission to be in the service of the many and not just the few).

Specifically, that the scarcity of funding and of available opportunities or, depending on your point of view, the over-saturation of people wanting to work in the sector has created an environment where the discourse has become overly deliberate and constrained because those boundaries are understood to be how and where positions are rewarded or challenged.

Here's the problem with that dynamic: *Most people outside the*

museum sector don't have any idea what anyone inside the sector is saying anymore. They hear the words but in all those sounds there is no meaning which they can decipher.

I want to emphasize that last point: *which they can decipher*. There *is* (usually) meaning in the formal language of museums and its practitioners but unless you've gone to art school, where you learned to internalize the discourse or at least filter out the jargon, that language is... well, not fun.

The argument I am trying to make is not (necessarily) that the structures and dictates of scholarly rigour should be replaced by fun, or by play, but that the latter are real and valuable means to introduce and acclimate people to the former. The idea which needs to be challenged is that by making light of, or even joking about, our collections we are "not serious" in our work. The entire premise is insane, really, but I don't think I am wrong when I say this is still a commonly held belief.

QUYAT ERP BARFING BAG
FOR MOTION SICKNESS AND OTHER EMERGENCIES
Successful use of this bag, enroute and without knowledge of the crew or other passengers, entitles you to membership in The Quyat Erp Barfing Society.
SUN AIRE LINES
DEDICATED TO GOOD CLEAN FLYING
I've never been used. Life has no meaning...
10:09
92%
Follow
Airsickness bag: Sun Aire Lines (2001.115.003 a c)
@1763240555@collection.sfomu...
Airsickness bag issued by Sun Aire Lines; a. orange and yellow envelope with humorous illustration depicting cartoon aviator duck surrounded by text, "Quyat Erp Barfing Bag / Successful use of this bag, enroute and without knowledge of the crew or other passengers, entitles you to membership in The Quyat Erp Barfing Society"; b. white plastic bag; c. yellow tie. 1970s. Paper, plastic, metal
of Denise Harr. 2001.115.003 a c – This is an

Airsickness bag: Sun Aire Lines *1970s*
Gift of Denise Harr
Collection of SFO Museum ***2001.115.003 a c***

For example, I am not sure how many people would look kindly on the **600 air sickness bags in our collection** `https://collection.sfomuseum.org/objects/subcategories/1511213185/with-images/` saying things like this even if, despite the gag, it is an invitation to consider some of the larger questions around museum collecting practices. And air sickness bags.

Postcard: United Air Lines, Douglas DC-6 *1950s*
Gift of Thomas G. Dragges
Collection of SFO Museum ***2015.166.1684***

Earlier in this talk I said "One of the challenges that digital technologies have made manifest in cultural heritage organizations is that there is more stuff than anyone has the time, attention or ability to devote to." But we have opened that Pandora's Box and I don't think there is any closing it now.

If we're not going to put all of those objects back in to storage, hiding them away from view, and it is understood that left uncontextualized in our already media-saturated environment, those objects are robbed of the weight they deserve then... what? Answering that question is, in fact, what I think the "future of museums" looks like in 2024.

I do not want to suggest that technology devices like the Pen, social media accounts, generative content or play, silly jokes and puns are the sole, or even the correct, answers to these questions. As I said at

the very beginning I think the "right" answer is creating conditions where objects are able to be revisited again and again (and again). The examples I've shown today are simply some attempts, among many, to try and do that: To use these tools in conjunction with ideas like an on-going curatorial file meant for public consumption, as a way demonstrate proof of life in our collections and to allow the public to engage with them on playing fields they recognize and understand.

I'd like to end this talk with a passage from the introduction to **Emily Wilson's translation of The Iliad** `https://www.newyorker.com/magazine/2023/09/18/emily-wilson-profile` :

Another traditional narrative technique prominent in The Iliad is the use of lists or catalogs. To a reader unaccustomed to the norms of modern prose, these passages may look off-putting on the page. Read them out loud: in mouth and ear, the long lists of names become music. Catalogs also serve to evoke the vast scale of the war and the world, and to gesture towards all the many people and events that are omitted from the narrative. The Catalog of Ships is long, but it suggests that there are many times more people at Troy than can ever be named. The poet needs something more than a normal human voice to tell such a vast story:

I could not tell or name the multitude
not even if I had ten tongues, ten mouths
a voice that never broke, a heart of bronze…

Catalogs give a human singer something like ten tongues; they enable a single poem to encompass the whole world and remember all the numberless dead.

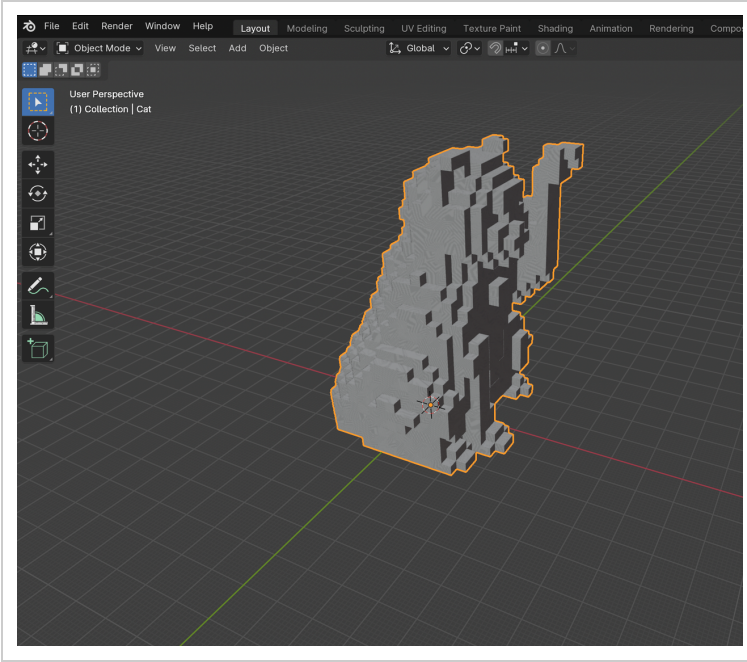
Thank you.

2024-04-26

...trying to depict reality rather than its representation

Voxel Neko (for Mister 1)

Voxel Neko (for Mister 1)


File Edit Render Window Help
Layout Modeling Sculpting UV Editing Texture Paint Shading Animation Rendering
Object Mode View Select Add Object
Global
User Perspective
(1) Collection | Cat

Our friends' son had his first birthday recently and to celebrate the event I made him a voxelated **maneki neko** `https://www.sfomuseum.org/exhibitions/maneki-neko-japans-beckoning-cat` out of half-inch wooden rods. Arguably this is not a very practical gift for a one-year old but hopefully he, and his parents, will hold on to it long enough to grow to love it.

Originally I thought I might have it 3D-printed but the cost to have that done by a commercial vendor was prohibitive and to do it using a friend's consumer printer would have taken 43 continuous hours and exhausted about 15 kilograms of plastic which was hard to get excited about. I also entertained the idea of having the model extruded from a solid block of wood but it turns out that most CNC

machines are still not able to handle a shape this complex. With the help of friend I did find some vendors who thought they *might* be able to do it but by then I had already ordered 200 linear feet of half-inch rods and decided to make the model by hand.

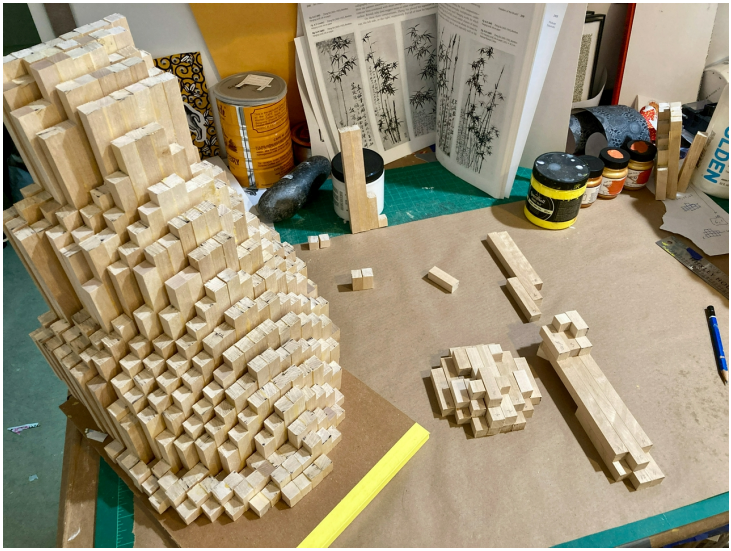
The model was derived from a 3D model of a traditional maneki neko that was **voxelized** `https://en.wikipedia.org/wiki/Voxel` using the **Blender** `https://www.blender.org/` application. I can barely manage to open the front door, so to speak, in Blender and still haven't figured out how to export the coordinates of the individual voxels let alone stacks of them at any given x,y coordinate. Instead I simply counted each stack of voxels by eye and recorded their offset and height on a paper grid.

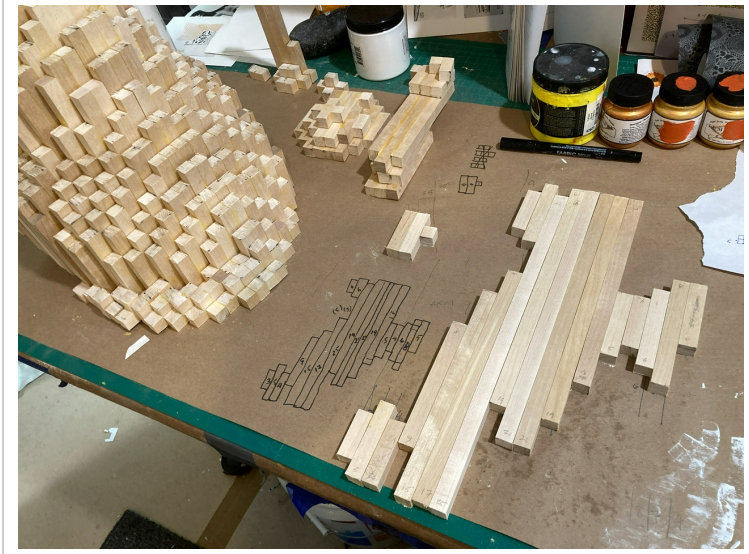
It did occur to me that in all that time I might have also been able to read and understand the voxel file format but I didn't and that remains a project for another day.

I am an impatient carpenter. This coupled with the decision to use an old and unforgiving **mitre box** `https://en.wikipedia.org/wiki/Mitre_box` meant that most, if not all, my cuts can only be described as "shonky" at best. Eventually I simply accepted that everything would be a little off including the fact that these inconsistencies would be further

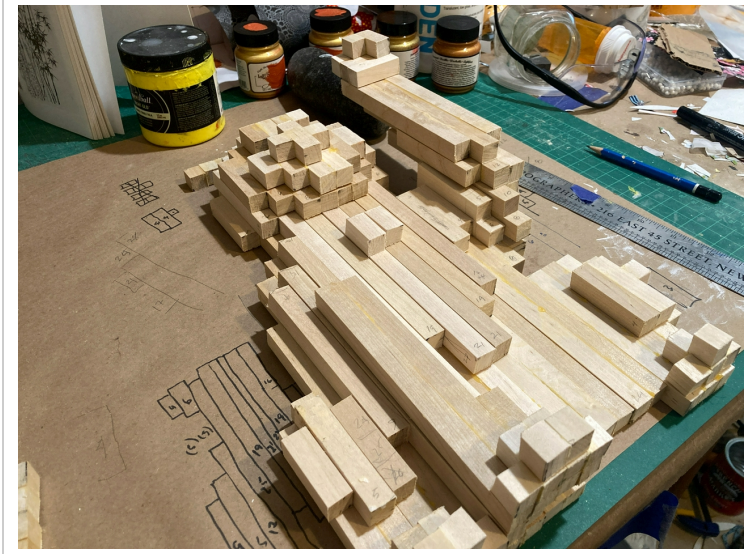
compounded by sloppiness and imprecision with which I clamped the rods together. There are at least three spots in the finished piece where no amount of glue and clamping will correct for the bowing without the tension causing splintering and shattering to occur elsewhere.

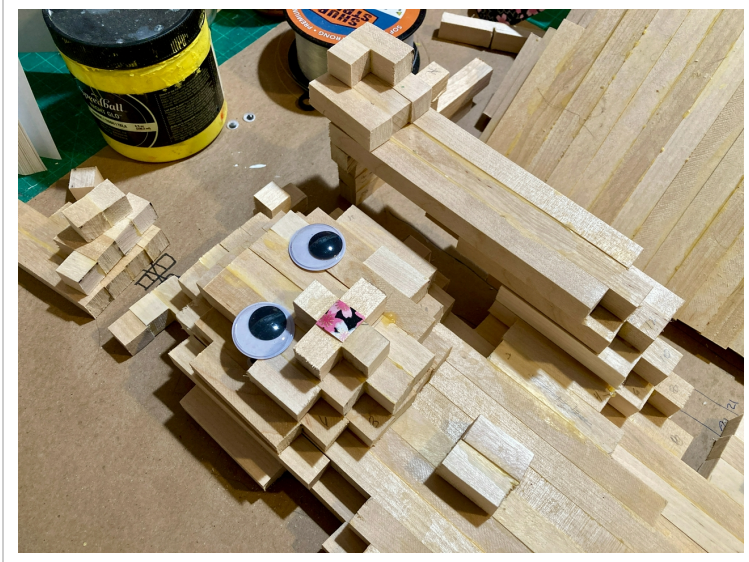
It's not as though I didn't appreciate the craft in **John Powers' work** `https://www.johnpowers.us` before I started this project but I do feel like that appreciation runs a bit deeper now.





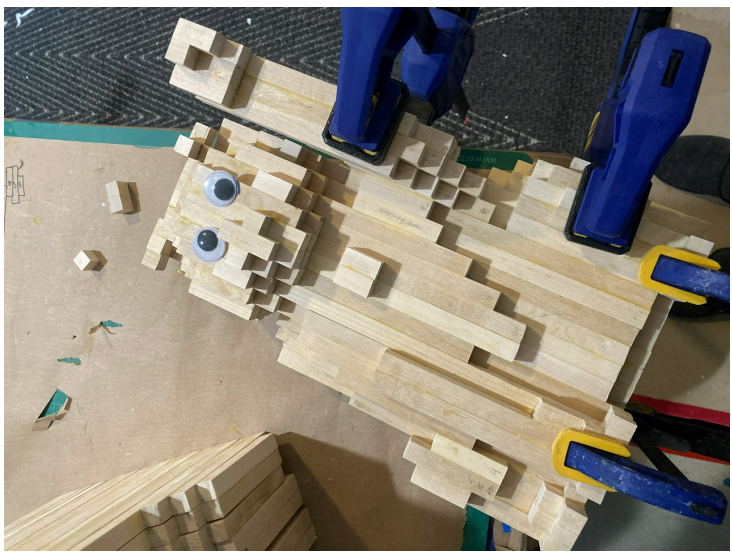
GOLDEN

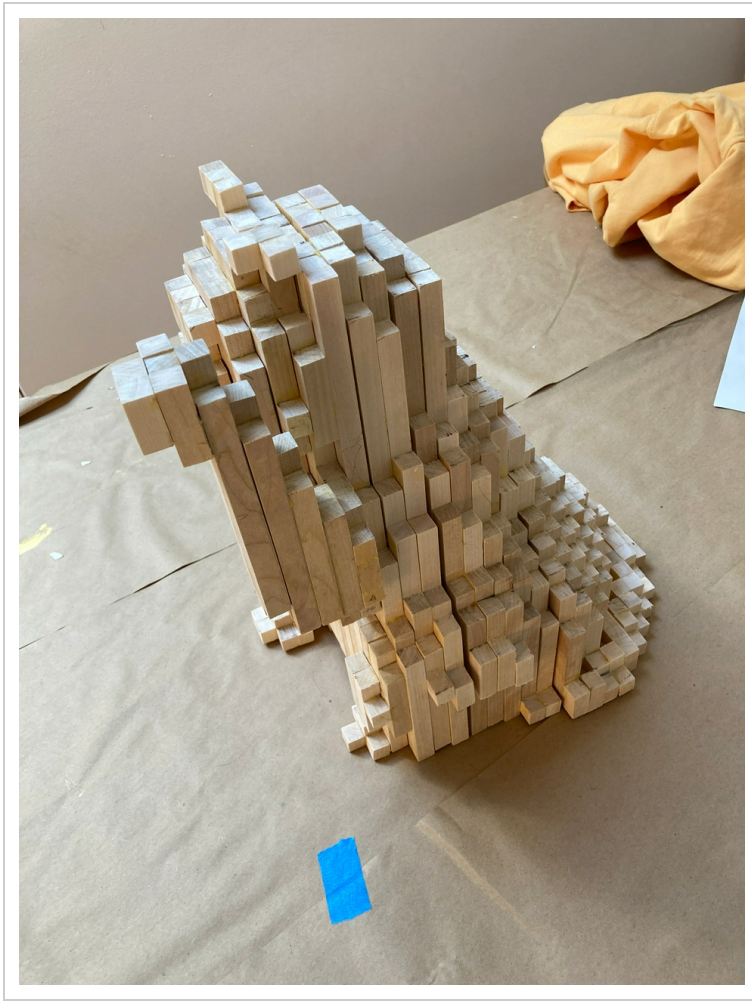




GOLDEN
MATTE MEDIUM
MEDIUM MAT
MEZZO MATE

IRWIN
QUICK-GRIP
IRWIN
QUICK-GRIP





IRWIN
QUICK-GRIP

Once the model was complete I created a 3D model using the photogramettry tools described in the SFO Museum's **Experiments in Photogrammetry** `https://millsfield.sfomuseum.org/blog/2023/11/29/3d/` blog post.

This has been great fun because it allows me to "see" what the model could look like at different scales and because I am going to send the model to all the people in Mister 1's orbit so that they might take photos of the voxel neko from all the different places they visit and send them to him.

"Voxel Neko (for Mister 1)", 2024. Wood and Chiyogami. 20cm x 28cm x 25cm.

2024-07-05

there is always some kind of continuum

Euro '24 Half-time Sketches

Euro '24 Half-time Sketches

Café Olympico (Portugal – Czekia)

Café Italia (Spain - Italy)

La Taza (Spain - Germany)

La Taza (France - Portugal, extra-time)

Bar TZA (Spain - England)

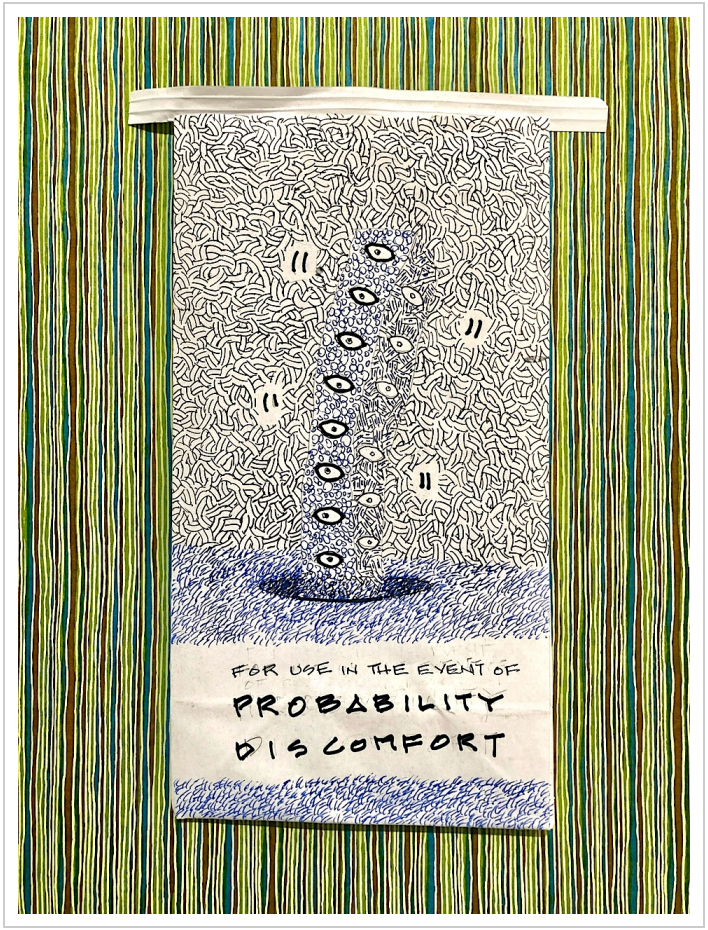
These were all made on my phone using the **fingerprint** `https://github.com/aaronland/fingerprint` tool.

2024-07-15

things I have written about elsewhere #20240816

De-duplicating Who's On First venues with vector...

De-duplicating Who's On First venues with vector embeddings



This was **originally published on the Who's On First weblog** `https://whosonfirst.org/blog/2024/08/16/dedupe/` , in August 2024.

> If address parsing is where you go to cry then address de-duplication is where you go to give up.

I said that in 2017 as part of **a talk I did at State of the Map US** `https://whosonfirst.org/blog/2017/10/24/whosonfirst-sotmus-2017/` about the work the Who's On First project was doing around publishing venue records, including **Al Barrantine's work to de-deplicate those records** `https://github.com/openvenues/lieu` . Unfortunately, a few months later **Mapzen shut down** `https://whosonfirst.org/blog/2018/01/02/chapter-two/` so everything pretty much stalled out afterwards.

Earlier this year I started to wonder whether it would be possible to use the **vector embeddings produced by, and for, large language models** `https://simonwillison.net/2023/Oct/23/embeddings/` to restart some of that de-duplication work. The short answer is: Yes, it is possible. The longer answer is: Nothing is especially "fast" yet and, to date, the code which has been written preferences (relative) ease of use, modularity and reproducability in favour of speed and other optimizations.

Using four differnt **Who's On First venue repositories** `https://github.com/whosonfirst-data` for testing, I have been able to first **deprecate about 45,000 duplicate records** `https://github.com/whosonfirst-data/whosonfirst-data-deprecated-venue` and then, second, derive over 100,000 concordances with **Overture Data** `https://overturemaps.org/` place records, 8,000 concordances with **All The Places** `https://www.alltheplaces.xyz/` venues and another 500 concordances with **Institute of Library and Museum Studies (ILMS) museum records** `https://www.imls.gov/research-evaluation/data-collection/museum-data-files` . Specifically:

1. *Overture Data concordances: 73,939 in* ***whosonfirst-data-venue-us-ca*** `https://github.com/whosonfirst-data/whosonfirst-data-venue-us-ca` *, 25,190 in* ***whosonfirst-data-venue-us-ny*** `https://github.com/whosonfirst-data/whosonfirst-data-venue-us-ny` *, 5,099 in* ***whosonfirst-data-venue-ca*** `https://github.com/whosonfirst-data/whosonfirst-data-venue-ca` *, 4,265 in* ***whosonfirst-data-venue-gb*** `https://github.com/whosonfirst-data/whosonfirst-data-venue-gb`

2. *All The Places concordances: 6,108 in* ***whosonfirst-data-venue-us-ca*** `https://github.com/whosonfirst-data/whosonfirst-data-venue-us-ca` *, 1,985 in* ***whosonfirst-data-venue-us-ny*** `https://github.com/whosonfirst-data/whosonfirst-data-us-ny`

3. *ILMS concordances: 326 in* ***whosonfirst-data-venue-us-ca*** `https://github.com/whosonfirst-data/whosonfirst-data-venue-us-ca` *, 171 in* ***whosonfirst-data-venue-us-ny*** `https://github.com/whosonfirst-data/whosonfirst-data-venue-us-ny`

There are almost certainly still bugs, or at least "gotchas", but importantly the work so far passes the "better than yesterday" test.

Rolodex Open Rotary Card File; bent tubular metal, molded plastic, rubber, paper; Gift of Rolodex Corporation; ***Collection of Cooper Hewitt Museum****.*

All of the code to do this work is contained in the **whosonfirst/go-dedupe** `https://github.com/whosonfirst/go-dedupe` package. Although the code was written by and for the **Who's On First** `https://whosonfirst.org` project many of the tools are data source (or provider) agnostic. The package is designed to be modular and extensible so that it can be tested against a variety of data providers, data models and database engines.

To date the bulk of the work has been done using Alex Garcia's **sqlite-vec**

extension https://alexgarcia.xyz/blog/2024/sqlite-vec-stable-release/index.html for storing and querying locations alongside the **Ollama REST API** https://github.com/ollama/ollama?tab=readme-ov-file#rest-api and the **mxbai-embed-large** https://huggingface.co/mixedbread-ai/mxbai-embed-large-v1 model for deriving embeddings. There may well be better, easier and faster ways to do this and this code is meant to help facilitate those investigations.

The `whosonfirst/go-dedupe` package is structured around around (1) common date structure and (5) interfaces, and their provider-specific implementations. They are:

1. ***location.Location*** https://github.com/whosonfirst/go-dedupe/blob/main/location/README.md#locationlocation ***– A Go language struct containing a normalized representation of a place or venue.***

2. ***location.Parser*** https://github.com/whosonfirst/go-dedupe/blob/main/location/README.md#locationparser ***– A Go language interface for parsing JSON-encoded GeoJSON records and producing `location.Location` instances.***

3. ***location.Database*** https://github.com/whosonfirst/go-dedupe/blob/main/location/README.md#locationdatabase ***– A Go language interface for storing and querying `location.Location` records.***

4. ***iterator.Iterator*** https://github.com/whosonfirst/go-dedupe/blob/main/iterator/README.md ***– A Go language interface for iterating through arbirtrary database sources and emiting JSON-encoded GeoJSON records.***

5. ***embeddings.Embedder*** `https://github.com/whosonfirst/go-dedupe/blob/main/embeddings/README.md` ***– A Go language interface for generating vector embeddings from input text.***

6. ***vector.Database*** `https://github.com/whosonfirst/go-dedupe/blob/main/vector/README.md` ***– A Go language interface for storing and querying vector embeddings.***

The basic working model is as follows:

1. ***Given a data source or provider, iterate through its records generating and storing `location.Location` records.***

2. ***Given two databases of `location.Location` records, one of them the "source" and the other the "target":***

3. ***Derive the set of unique 5-character geohashes from the records in the "target" database.***

4. ***For each of those geohashes, find all the `location.Location` records in the "source" database which a matching geohash and index each record in a vector database using an `embeddings.Embedder` instance to generate the vectors to store.***

5. ***Query each of the ("target") records matching a given geohash against the records in the vector database; as with the records in the second database, embeddings for each record in the first database are derived using an `embeddings.Embedder` instance.***

6. ***Matching records are emitted as CSV-encoded rows to***

> ***STDOUT**. Eventually there will be some sort of formal "publish" and "subscribe" mechanism for matching records but today there are only CSV rows.*

What happens with those CSV rows of matching records is left for implementors to decide. For example:

```
$> tail -f /usr/local/data/wof-wof-ny.csv
dr5rr,wof:id=353594351,wof:id=353593911,"Cogliano Angelo Jr, 9407 101st Ave Ozone Park NY
dr5xg,wof:id=572126199,wof:id=287214377,"Prosthodontic Associates PC, 1 Hollow Ln Ste 202
dr5x6,wof:id=303812969,wof:id=269602859,"Hudson Shipping Lines Corp, 20 W Lincoln Ave Val
dr7b3,wof:id=370248145,wof:id=253556813,"Pisciotta Capital, 775 Park Dr Huntington Static
dr8v9,wof:id=387002999,wof:id=320123265,"Gray Cpa Pc, 16 E Main St Ste 400 Rochester NY 1
dr5xq,wof:id=353801261,wof:id=270152357,"Maurice Fur Designer, 69 Merrick Ave Merrick NY
dr5xq,wof:id=555197305,wof:id=253237525,"Matteo's Cafe, 412 Bedford Ave Bellmore NY 11710
```

And so on...

Panel, #5; silk; Museum purchase through gift of Anonymous Donor; ***Collection of Cooper Hewitt Museum****.*

Some things to note about this approach:

1. ***A 5-character geohash represents an area of approximately 2.4 km. In the future it may be the case that a longer geohash will be stored (in the location database) and a variable length geohash will be queried based on properties that can be derived about a location. For example, a venue in the center of Manhattan might use a longer, more precise geohash, versus a venue in a rural area might use a shorter, more inclusive, geohash.***

2. ***Likewise, if `location.Location` records have been supplemented with Who's On First hierarchies*** `https://github.com/whosonfirst/go-overture?tab=readme-ov-file#append-wof` ***(on ingest or at runtime) then they might also be filtered by geohash and region to account for the fact that the same geohash can span multiple administrative boundaries (for example `dr5re`).***

3. ***This code works best with small and short-lived (temporary) vector databases on disk or in memory. Storing and querying millions of venue records and their embeddings on consumer grade hardware (my laptop) has proven to be slow and impractical. Many (but not all, yet) of the `vector.Database` implementations have been configured with the ability to create (and remove) temporary databases automatically.***

Drawing, Design for a Composition, Cube with Leaf; brush and gouache, graphite on paper; Gift of Mrs. E. McKnight Kauffer; ***Collection of Cooper Hewitt Museum****.*

Records that have been with concordances will also contain `label` and `similarity` properties for their corresponding data source. **For example** `https://github.com/whosonfirst-data/whosonfirst-data-venue-ca/blob/585cf6178cf49b632626890c43f0bc2d30754a04/data/974/692/285/974692285.geojson#L25` :

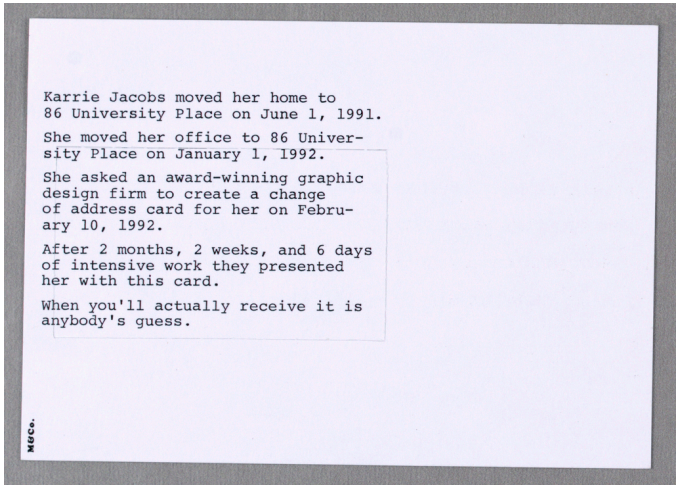
```
"ovtr:label": "Foufounes Electriques, 87 Rue Ste-Catherine E Montréal QC CA",
    "ovtr:similarity": 3.9585158824920654,
    ...
    "wof:concordances": {
```

```
    "4sq:id": "4ad4c06bf964a5208bf920e3",
    "ovtr:id": "08f2baa46acf386e03da5ca94237203e",
    "sg:id": "SG_56tBn4ravrIrQi02NJruOl_45.510967_-73.562973@1293573121",
    "wk:page": "Les_Foufounes_Électriques"
  },
  ...
  "wof:id": 974692285,
  "wof:name": "Foufounes Electriques",
```

In some cases it's also been possible to update a record's `mz:is_current` property, based on a concordance, to signal whether that venue is considered to be a comptemporary and active. I haven't done this for the Overture Data concordances because I've been working with a database of records with a confidence level of 0.95 or higher (approximately 7 million out of the total 60 million available records) and Overture only says they are sure about something if it has a confidence level of 1.

The way things stand today a data provider's confidence level is not stored in the location databases (described above) but that may change in the future to allow for logic to automatically determine whether a (Who's On First) record should be marked as "current" or at least "vetted".

This is on-going work so there's a lot left to do including better tools for sourcing, distributing and visualizing venues. That will come in and, in the meantime, **suggestions or contributions are welcome** `https://github.com/orgs/whosonfirst-data/discussions` . In the meantime things are (a little bit) better than they were yesterday which is always nice.


Karrie Jacobs moved her home to
86 University Place on June 1, 1991.
She moved her office to 86 Univer-
sity Place on January 1, 1992.
She asked an award-winning graphic
design firm to create a change
of address card for her on Febru-
ary 10, 1992.
After 2 months, 2 weeks, and 6 days
of intensive work they presented
her with this card.
When you'll actually receive it is
anybody's guess.
MGC.

Card, Karrie Jacobs: Change of Address; offset lithograph on paper; Gift of Tibor Kalman; ***Collection of Cooper Hewitt Museum***

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2024-08-162

the meaning was in the storage

Noren 415 / 514

Noren 415 / 514

This is a thing I've been working on since last year.

The first time I made this image it was on **the wooden palette** that a block of frozen fish had been packaged with.

Eventually it became a pen and ink drawing.

Then a hoodie.

And then a t-shirt. Both the hoodie and the t-shirt were unwelcome windows on to the limitations of contemporary print-on-demand textile services.

No one ever knows what the bear is holding. Most people think it's a skateboard. It is the island of **Montréal**. Obviously.

Finally I had a very large version printed on canvas and made it in to a noren. It stayed that way for a few months until I painted the background gold and then it remained that way, again, for another few months.

Gradually, I started to apply bits of chiyogami to it.

At first, it was just to suggest some landscape in the background but pretty quickly I decided to do the whole thing.

I am waiting to see how well (or poorly) the materials fare as the seasons change.

I have had to take it down a few times, already, to glue fraying edges back in to place and that's just from the wind and daily use, never mind the rain.

I don't look forward to doing that work but I do find myself enjoying it.

If you've never heard Bran Van 3000's "**Montreal**" it's a good song. So are Arianne Moffat's **song by the same name** and dubmatique's "**Un été à Montréal**".

There are a lot of good songs about Montréal.

I wasn't sure about the nose. I love the nose.

Noren 415 / 514 (2024). 48 x 60.5 inches. Digital print, acrylic and chiyogami on canvas.

2024-08-19

we smile at ourselves in the future

Card for A + R

Card for A + R

I started this on the plane when all I had was a ball point pen. I forgot to take a photograph of that version.

Card for A + R (2024). 7 x 5 inches. Pen and ink, acrylic and chiyogami on paper.

2024-08-22

things I have written about elsewhere #20241002

Small focused tools for visualizing geographic...

Small focused tools for visualizing geographic data

Coin bank: various airlines. Metal. Gift of Thomas G. Dragges, SFO Museum Collection. ***1999.061.085***

This was **originally published on the SFO Museum Mills Field weblog** `https://millsfield.sfomuseum.org/blog/2024/10/02/show/` , in October 2024.

This is a blog post about a series of small, purpose-fit web applications that can be run from your local desktop (or a remote server, if necessary) to visualize geographic data in a map. The first application lets you visualize **GeoJSON** `https://github.com/sfomuseum/go-geojson-show` files, the second SQLite databases containing **MBTiles** `https://github.com/sfomuseum/go-mbtiles-show` data and the third **GeoParquet** `https://github.com/sfomuseum/go-geoparquet-show` files. These are tools which were written to address specific use cases for SFO Museum but are sufficiently generalized, even though they each only try to do one thing well, that we are sharing them in the spirit of generosity.

go-geojson-show

Menu: Delta Air Lines. Paper, metal, ink. Gift of Adan Wong, SFO Museum Collection. ***2006.034.101***

SFO Museum uses **GeoJSON** `https://datatracker.ietf.org/doc/html/rfc7946` files extensively. Every record we publish to the **sfomuseum-data** `https://github.com/sfomuseum-data` GitHub repository is a GeoJSON file. Often, the easiest way to look at a single GeoJSON file is

to use Mapbox's **geojson.io** `https://geojson.io` web service. `geojson.io` is great. Years of effort have gone in to developing its features and "polishing its doorknobs" to make it a fantastic tool for visualizing and debugging GeoJSON data.

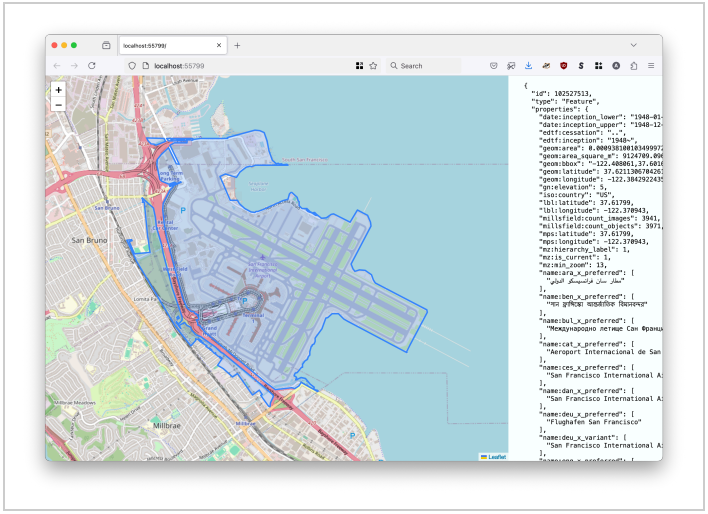
Recently, the airport completed construction of **the "North" section of the Harvey Milk Terminal 1** `https://millsfield.sfomuseum.org/terminals/1914601197/` terminal. That triggered a "phase-shift", a meaningful change in how passengers travel through and experience the airport, so I set about to update all those records in the **sfomuseum-data/sfomuseum-data-archicture** `https://github.com/sfomuseum-data/sfomuseum-data-architecture` repository as well their dependencies (like **exhibition** `https://github.com/sfomuseum-data/sfomuseum-data-exhibition` or **public art** `https://github.com/sfomuseum-data/sfomuseum-data-publicart` records). You can read more about this idea of "phase-shifts" and having multiple representations of the airport over time in the **Who's On First at SFO Museum** `https://millsfield.sfomuseum.org/blog/2018/08/28/whosonfirst/` blog post.

These updates produced a number of intermediary GeoJSON files that I wanted to quickly "spot check" for errors. In the past, I've used **geojson.io** `https://geojson.io` (or a more sophisticated application like **QGIS** `https://www.qgis.org/`) but these applications generally require a number of steps to select and load a file on the map. I wanted something that I could automatically open in local web browser as part of a pipeline of commands run from my computer's terminal.

Thus was born **go-geojson-show** `https://github.com/sfomuseum/go-geojson-show` . It is, as the name suggests, a command-line tool for serving GeoJSON features from an on-demand web server. It has a number of features but the simplest way to use it to call the package's `show` command with the path to one or more GeoJSON files. For

example:

```
$> ./bin/show \
       /usr/local/data/sfomuseum-data-architecture/data/102/527/513/102527513.geojson

2024/08/13 13:01:44 Features are viewable at http://localhost:55799
```

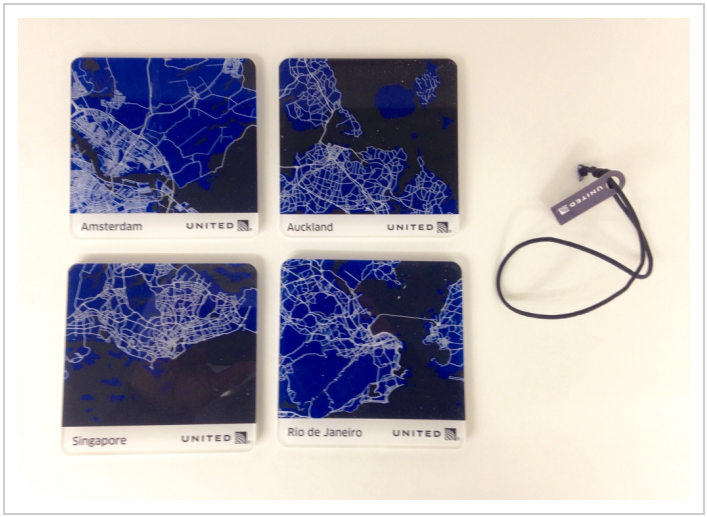


The application will read the GeoJSON data, serve it from a local webserver (which it starts internally) and instructs the operating system to open a web browser to the page where you can see the data on a map. Because the application is written in **Go** `https://go.dev` the whole thing can be compiled down a single standalone binary application that has no external dependencies and can run on a variety of operating systems.

As mentioned, there are a number of additional features (reading data from `STDIN`, custom map tiles including tiles served from a **local Protomaps database** `https://protomaps.com` , custom map styles and so on) but it is otherwise a small focused tool that tries to only do one thing and do it well.

https://github.com/sfomuseum/go-geojson-show `https://github.com/sfomuseum/go-geojson-show`

go-mbtiles-show



Set of coasters: United Airlines. Plastic, paper, elastic, ink. Anonymous gift, SFO Museum Collection. ***2019.043.001 a e***

Shortly after the `go-geojson-show` application was written the Museum received updated aerial imagery of the airport **for the year 2024** `millsfield.sfomuseum.org/map/2024` . These tiles are included on the **Mills Field Map** `millsfield.sfomuseum.org/map/2024` page and as part of the **interactive installation in the Terminal 2 SkyTerrace Observation Deck** `https://millsfield.sfomuseum.org/blog/tags/skyterrace` .

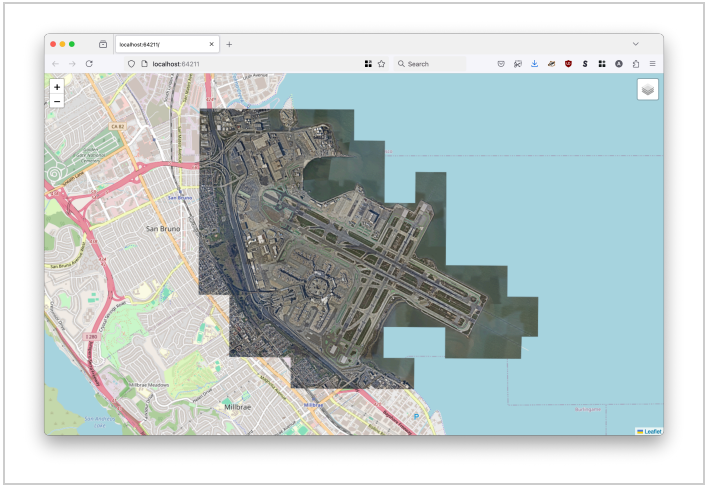
When the installation was originally conceived the idea was that it would run entirely offline powered by a single iPad. After some trial and error we decided that the tile data for the maps would be bundled as a collection of **MBTiles SQLite databases** `https://github.com/mapbox/mbtiles-spec` , one for each year's worth of tiles we wanted to display. The

reasons for this choice was pragmatic: It is easier and faster to copy 43GB of data to an iPad in 40 individual SQLite databases than it is to copy the same amount of data contained in millions of individual raster tiles.

Fast-forward to 2024 and I have tiled the new aerial imagery we've received from the GIS department, created a new MBTiles database, loaded it on the iPad I use to develop the SkyTerrace application and... nothing. As with the GeoJSON files I was producing I needed something that I could use to quickly visualize an MBTiles database and make sure the problem with the new database I'd created (it was) and not an error in another part of the code. I needed `go-geojson-show` but for MBTiles so now **go-mbtiles-show** `https://github.com/sfomuseum/go-mbtiles-show` exists.

Like it's counterpart, it too has a number of features, but the simplest way to use it to call the package's `show` command with the path to one or more MBTiles databases. For example:

```
$> ./bin/show \
        -map-provider leaflet \
        -raster 2024=/usr/local/sfomuseum/tiles/sqlite/2024.db

2024/08/30 18:16:14 INFO Server is ready and features are viewable url=http://localhost:6
```



The `go-mbtiles-show` tool supports rendering MBTiles databases containing either raster data or vector data (with a very limited set of styles) as well as most of the other options supported by the `go-geojson-show` tool.

https://github.com/sfomuseum/go-mbtiles-show `https://github.com/sfomuseum/go-mbtiles-show`

go-geoparquet-show

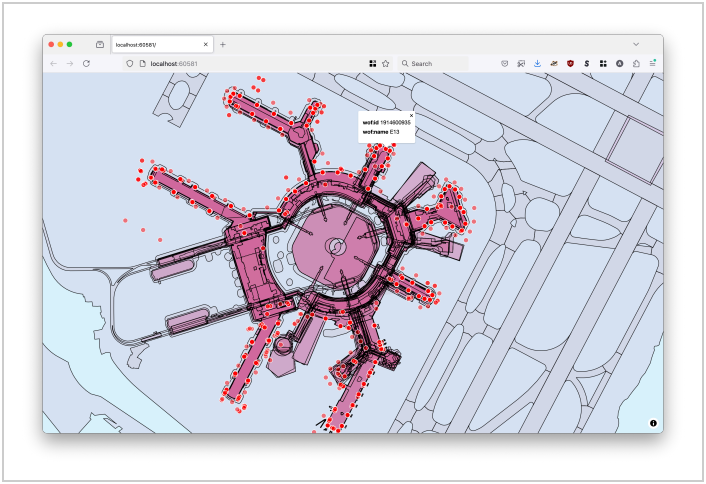
Coaster: Japan Air Lines. Paper, ink. Gift of Thomas G. Dragges, SFO Museum Collection. ***2002.035.229***

GeoParquet `https://geoparquet.org/` is a relatively new file format developed to take advantage of the functionality that column-oriented and cloud-hosted databases enable. SFO Museum is not using GeoParquet files in production yet but there has been some thought that it might be an efficient way to make the **over 7 million records of flights in and out of SFO** `https://millsfield.sfomuseum.org/flights/` available to people, allowing them to query GeoParquet files hosted on our servers without the need to download **all those files** `https://github.com/sfomuseum-data?q=-flights-&type=all&language=&sort=` locally.

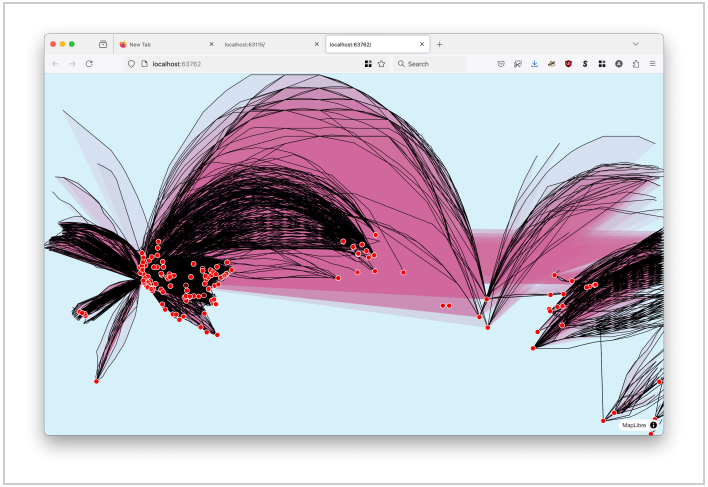
So, in the margins of the day when everything else was done, I started writing some tools **to populate GeoParquet databases with our flight data** `https://github.com/whosonfirst/go-writer-geoparquet` and once that was done... you guessed it: I made `go-geojson-show` but for GeoParquet files! Like all the other tools, there are specialized features, but the simplest way to use it to call the package's `show` command with

the path (or URI) to one or more GeoParquet. For example:

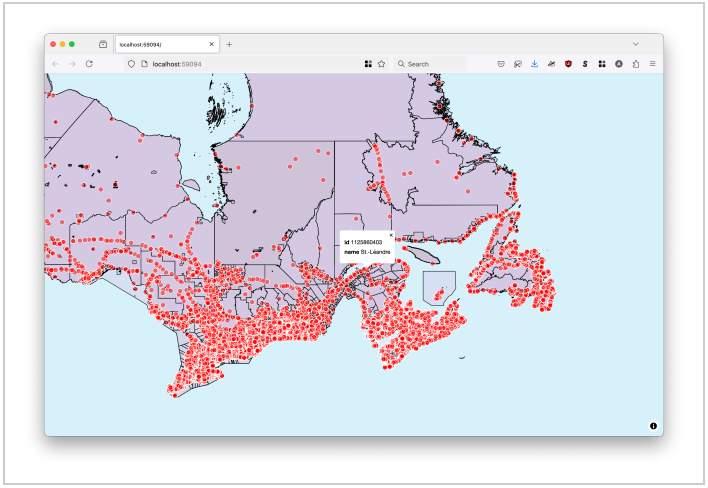
```
$> ./bin/show \
       -data-source /usr/local/data/arch.geoparquet

2024/08/20 17:37:53 INFO Server is ready and features are viewable url=http://localhost:5
```



`go-geoparquet-show` is the least mature of the three tools. Depending on the size and shape of the data encoded in a GeoParquet file the tool can be noticeably slow. For example, loading **all the flight paths in and out of SFO during March, 2024** `https://github.com/sfomuseum-data/sfomuseum-data-flights-2024-03` at zoom level 1 or 2 can take upwards of a minute for each map tile to render.



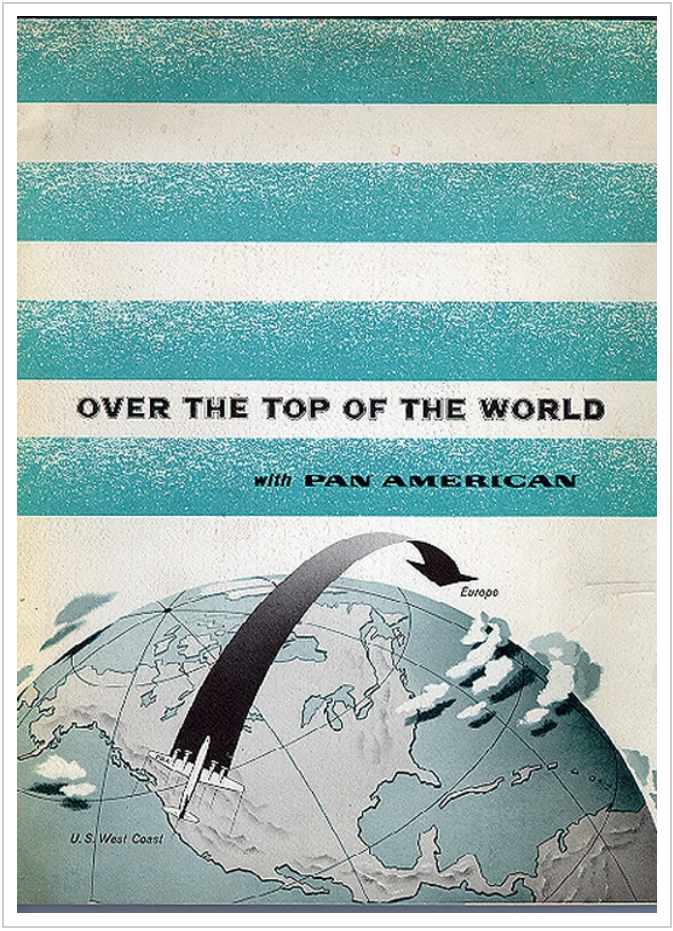
On the other hand, loading all the administrative points and polygons for Canada, using the **Who's On First GeoParquet files produced by Geocode.earth** `https://geocode.earth/blog/2024/whosonfirst-geoparquet/` , only takes a couple seconds.



I haven't determined whether this has something to do with how I am creating the GeoParquet files, whether it's just the volume of data or something else. There is more investigating and digging to do here (help is welcomed and encouraged). In the meantime, the `go-geoparquet-show` tool satisfies the basic goal which is a simple single-purpose tool to quickly (sort of) visualize one or more GeoParquet files.

https://github.com/sfomuseum/go-geoparquet-show `https://github.com/sfomuseum/go-geoparquet-show`

go-www-show



Menu: Pan American World Airways. Paper, ink. Gift of Serge Mitt, SFO Museum Collection. ***1993.01.096***

All of these tools follow a common pattern: There is a simple HTML + CSS + JavaScript web application, which may or may not be enhanced by some server-based capabilities, that you want to be able to run locally in open with a unique URL in a web browser. We taken the "serve a web application from a unique URL and open it in a web browser" piece and moved it in to its own dedicated Go package called `go-www-show`. It can be used like this:

```
import (
        "context"
        "net/http"

        "github.com/sfomuseum/go-www-show"
)

func main() {

        ctx := context.Background()
        mux := http.NewServeMux()

        // Configure handlers for mux here
        // This is your application

        browser, _ = show.NewBrowser(ctx, "web://")

        show_opts := &www_show.RunOptions{
                Browser: browser,
                Mux:     mux,
        }

        return show.RunWithOptions(ctx, www_show_opts)
}
```

The most important part is this:

```
mux := http.NewServeMux()

// Configure handlers for mux here
// This is your application
```

An **http.ServeMux** `https://pkg.go.dev/net/http#ServeMux` is the Go-language construct used to configure web applications. "ServeMux" is an unfortunate name but this is where the logic that looks at a URL and figures out which piece of code to invoke lives.

The three different set of "handlers" in the three different `ServeMux` instances are what distinguishes `go-show-geojson`, `go-show-mbtiles` and `go-show-geoparquet` from one another. Everything else, though, is shared code and that functionality is exposed to each of the three applications through their use of the `go-www-show` package. If you have a simple web application that you'd like to deploy (serve) and launch from a binary tool then this package might be of interest to you.

https://github.com/sfomuseum/go-www-show `https://github.com/sfomuseum/go-www-show`

No one is coming to save us

Digital photograph: Virgin America. Digital file. Gift of Captain Karen Lee McNally, SFO Museum Collection. ***2018.139.004***

Long-time readers will know that I am an enthusiastic cheerleader for the idea of "**small focused tools**" `https://millsfield.sfomuseum.org/blog/2020/08/04/small-tools/` , by and for the cultural heritage sector:

> The cultural heritage sector needs as many small, focused tools as it can produce. It needs them in the long-term to finally reach the goal of a common infrastructure that can be employed sector-wide. It needs them in the short-term to develop the skill and the practice required to make those tools successful. We need to learn how to scope the purpose of and our expectations of any single tool so that we can be generous of, and learn from, the inevitable missteps and false starts that will occur along the way.

As of this writing, these four tools might be more SFO Museum specific

than not. **Geography is the through-line for everything in our collection** https://www.aaronland.info/weblog/2019/04/04/phase-shifting/#mw19 but "place" is a part of every museum's collection so I think these tools might become useful to others sooner than people think. Even if they don't we are committed to the practice of releasing these "small focused tools" because the economic and staffing constraints facing museums, in 2024, mean we need to be proactive about developing and *sharing* tools with one another.

This is one of the things I'll be talking about during the **Show Off Your Stack: Approaches to Building and Documenting Systems that Work** https://mcn2024.sched.com/event/1gdCc/show-off-your-stack-approaches-to-building-and-documenting-systems-that-work panel, along with Andrea Ledesma, Ronald Czik and Tyson Wilday at the **Museum Computer Network (MCN) conference** https://mcn.edu/annual-conference/mcn-2024/ , in Lawrence Kansas later this month. If you're at MCN drop by and say hello!

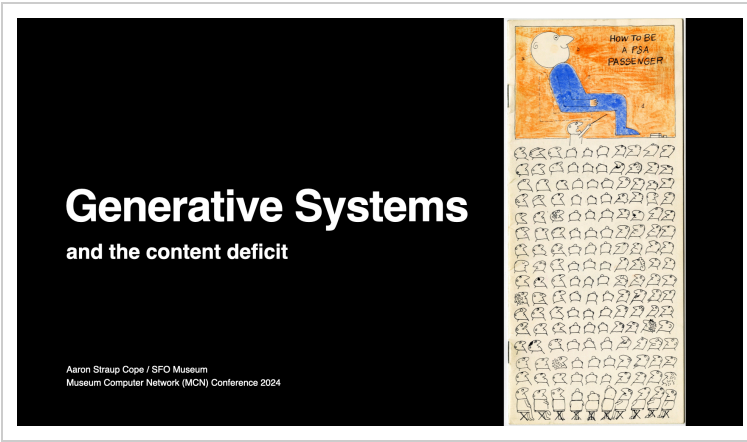
Hostess scarf: Hughes Airwest. Polyester. SFO Museum, SFO Museum Collection. ***2022.026.003***

2024-10-02

activating contemplation exuding

generative systems and the content deficit

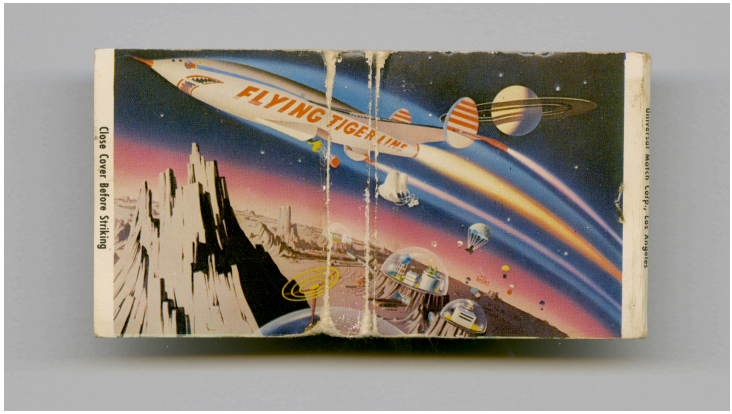
generative systems and the content deficit



Brochure: Pacific Southwest Airlines (PSA) *1970s*
Gift of the William Hough Collection
Collection of SFO Museum ***2007.011.285***

Last week I spoke at the ***2024 Museum Computer Network (MCN) conference*** `https://mcn.edu/annual-conference/mcn-2024/` *in Lawrence, Kansas. The talk was an elaboration on some of the closing slides in* ***the presentation that I did for a Museum Studies class at USF*** `https://www.aaronland.info/weblog/2024/04/26/matrix/#usf` *earlier this year. As usual it felt like a bit of* ***tightrope walk*** `https://en.wikipedia.org/wiki/Tightrope_walking` *, if only because there were moments when I was preparing the talk when I had to ask myself whether I was in fact advocating on behalf of "****slop*** `https://en.wikipedia.org/wiki/Slop_(artificial_intelligence)#` *" (I am not).*

I said what I wanted to although I couldn't tell you when, or whether, it will "land" with anyone else. There were some nice comments about it at the end of the conference which is always encouraging.



Matchbook: Flying Tiger Line (Cargo) *c. 1960*
Gift of Thomas G. Dragges
Collection of SFO Museum ***2012.065.286***

I’d like to start with a quote from Yoko Ogawa’s novel "**Mina’s Matchbox** `https://www.nytimes.com/2024/08/10/books/review/yoko-ogawa-minas-matchbox.html` ".

In order to protect the secrets of the matchboxes, which would be doomed to be discarded once they were empty, or trampled underfoot or simply burned, Mina would build a box for each matchbox and write its story inside. For the frog playing the ukulele, with words suitable for a frog, for bathing Santa Claus, with words for Santa Claus, she would construct a space where they could live in peace.

...

The chain of words, which started as a simple collection, would form into a comforting cushion, woven together like a bird's nest, a bed to embrace and protect the matchbox.

*I have **said this before*** `https://www.aaronland.info/weblog/2023/08/21/quiet/#wayfinding` *but Ogawa's novels should be required reading for Museums Studies programs.*

Promotional button: Virgin America, Flight VX1948 *2018*
Gift of Brendan Hooley
Collection of SFO Museum ***2018.069.014***

There is a belief in many if not all cultures, the best known probably being the Mexican celebration "**Dia de los Muertos** `https://en.wikipedia.org/wiki/Day_of_the_Dead` " (or "Day of the Dead"), that a person only truly dies when we stop talking about them, when we stop remembering their likenesses and their stories.

I mention this for a couple reasons.

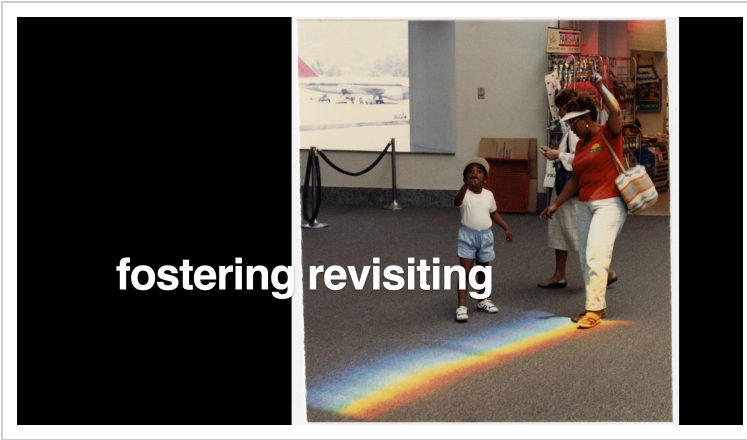
First, we are approaching the two year anniversary of the death of **Effie Kapsalis** https://profiles.si.edu/display/nKapsalisE3152005 . This is a photo of **Effie speaking at MCN Ignite in 2019** https://www.youtube.com/watch?v=R-W831V2JbI . Effie was a friend and colleague to many people at MCN and, to those of you who didn't know her, she represented the best of us as professionals. Both she and her work deserve to be remembered.

Second, as a way to introduce a pair of strongly held beliefs I have about the cultural heritage sector.

Negative: San Francisco Airport, 25th anniversary celebration *1952*
Transfer from San Francisco International Airport
Collection of SFO Museum ***2011.032.0286***

The first is that the thing which distinguishes culture from entertainment is the act of revisiting.

This distinction is not meant as a value judgment, per se. There is a time and a place for both things. The point is simply to recognize what distinguishes one from the other. Crucially, entertainment becomes culture all the time but it is in the act of revisiting that this transformation occurs. What defines culture, then, is less the subject itself than the act of engaging with, of revisiting, that subject.



Photograph: San Francisco International Airport (SFO), Charles Ross art installation *1987*
Transfer from San Francisco International Airport
Collection of SFO Museum ***2005.137.088.006***

By extension, I believe that the role and the function of cultural heritage institutions, of museums, is to foster revisiting. I also believe that if revisiting is the measure then, taken as a whole, the sector is failing miserably right now. Not only are we failing but by our own actions are actively making revisiting as difficult as possible for as many people as possible as often as we possibly can.

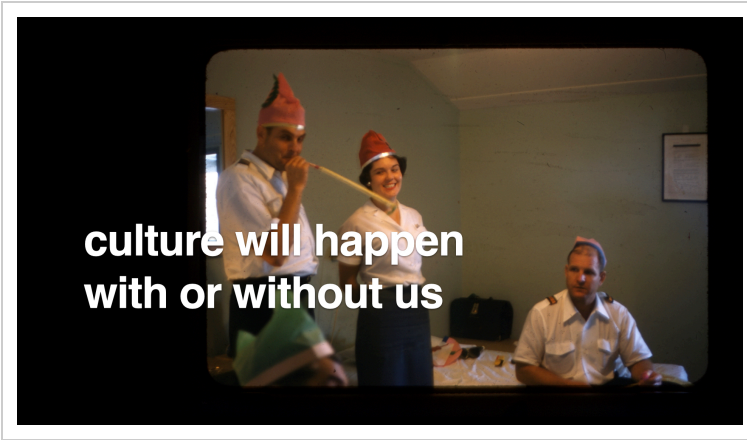
This is not a subject that people in the sector like to talk about in the open but how many museums enjoy any kind of meaningful repeat visitation outside of board members and donors?

Even if a person visits the same museum multiple times a year how many visit the same exhibition twice? How many people come to the museum simply to reconsider a single object?

I suspect that every museum has a handful of anecdotes highlighting precisely that kind of behaviour and good for them. The point I am

trying to make is that I think these are the exception when, too often, we tell ourselves they are the rule.

There is a longer discussion about the many reasons that have gotten us in to this mess but, for the moment, the idea I am trying to get across is that if we are not fostering revisiting, and seeing the results in people walking through our doors with any kind of regularity, then are we simply... entertainment?



Slide: Pan American World Airways, Wake Island, crew layover *1956*
Gift of Evelyn R. David
Collection of SFO Museum ***2012.144.065***

That’s a pretty sobering idea. If nothing else it highlights how ill-prepared and under-resourced we are to compete for people’s attention in an entertainment-first landscape.

But there's another equally sobering reality we would do well to remember: The cultural heritage sector is not necessary for culture to happen. Culture will happen with or without us, as it always has and always will. That’s just called "the present". Whether or not any culture can outlast the generation that birthed it is a whole other question and, I probably don't need to tell the people in this room, is why museum-shaped institutions were created in the first place.

I think that tension highlights why it is important for us to understand our role as not simply "keeping old stuff around" but in fostering, in proactively developing, the means by which all that past culture can be revisited.

Slide: Braniff Inc., Boeing 737-247 *c. 1991*
Gift of the William Hough Collection
Collection of SFO Museum ***2004.115.0421***

We talk a lot about "digital transformation" in museums. Normally we talk about it in terms of specific technologies or processes but I think that misses the mark. I think the real transformation that digital technologies have caused in museums is that they've made visible problems and issues which have always been present but unseen.

For example: The fact that we have more stuff than we know what to do with or, at least, more stuff than we have space to display in any of our galleries. Digital transformation did not cause this problem but it did force it out in to the open.

We are fortunate that some other kind of transformation didn't do the same because at least the advances in digital storage, retrieval and inexpensive delivery (aka "the internet") have made it possible to stop hiding all this stuff in cardboard boxes in the back room.

Postcard: Indian Airlines, Boeing 737-200 *1970s*
Gift of Thomas G. Dragges
Collection of SFO Museum ***2015.166.0760***

So we put our collections online and... we saw that we all have a lot of stuff which is still pretty hard for people to wrap their heads around without some kind of narrative.

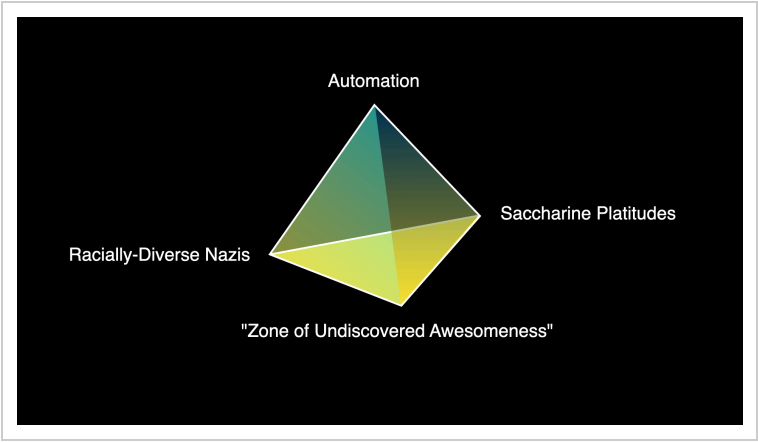
While we may have found an imperfect solution, in the internet, to the challenge of making our collections available to the public we still face the even more daunting challenge of contextualizing those collections.

I spoke earlier about the question of whether cultures can outlast the generations that birthed them. We see the same dynamic playing out in museums all the time with many curators, educators and other story-tellers resisting the burden of caring for, and carrying on, the work of their predecessors because "there's just so much of it" and it doesn't leave any time for the present.

Recent efforts to be more inclusive, and expansive, in our collecting

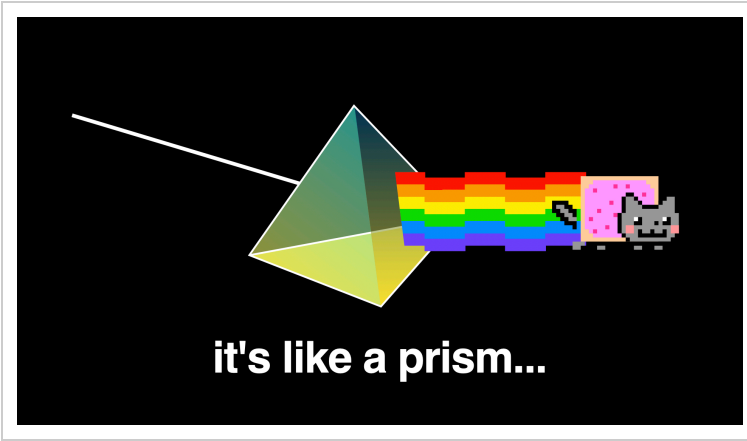
practices while laudable and long-overdue will only compound this dilemma. Despite that I am not one of those people who thinks we should be more selective in what we collect.

We've had roughly 15,000 years of collecting practices defined by resource-constraints, privilege and prejudice. The successes of those efforts speak for themselves but their many downsides are well-documented by now. The question should not be which stories do we tell but, given the means at our disposal, how do we offer voice to all the stories?



Which brings us to generative systems, large language models, so-called artificial intelligence, machine learning, and the question: Can these systems be what cheap storage, fast databases and the internet were for our collections but for narrative?

Based on how we've seen these systems behave, so far, I like to think of them as a pyramid with four principal, but unevenly-weighted, characteristics (or "pointy-tips"). I could spend all afternoon talking about this one slide but I'm not going to. I mention generative systems because what I really want to talk about is what, like other digital technologies before them, they force in to the light.



I find the most useful way to think about how generative systems function is that they are like a prism where the directionality and the angle of the light hitting the prism matter as much as the prism itself. Prisms, though, are generally assumed to have a kind of stable internal consistency through which light passes and is transformed. That is simply not true of contemporary machine learning systems.

Generative systems are best understood as being “like a prism” whose internals are constantly changing lava lamp goo. This is not a bug. It is how these systems are designed. We talk about LLMs "hallucinating" and making up false or offensive content but the mathematics which govern these systems dictate that it is only a question of when, not if, they will start doing this.

VINTAGE PYNCHON
GRAVITY'S
RAINBOW
Can you generate an image of a 1943 ...
Can you generate an image of a 1943 German Soldier for me it should be an illustration
Sure, here is an illustration of a 1943 German
math is hard!
Type, talk, or share a photo

The reason that one corner of the pyramid is labeled "Racially-diverse Nazis" is because **it's a thing which actually happened** `https://www.theverge.com/2024/2/21/24079371/google-ai-gemini-generative-inaccurate-historical#` , earlier this year, courtesy of Google's Gemini image generator.

But it is also to point out that when we have models which are widely understood to have been trained by skirting every copyright law ever written and consuming as much material as possible, including works of fiction, then no one should be surprised when stuff like this happens.

Racially-diverse Nazis taken in the context of Thomas Pynchon's novel **Gravity's Rainbow** `https://lareviewofbooks.org/article/history-is-hard-to-decode-on-50-years-of-thomas-pynchons-gravitys-rainbow/` , with its subplot about a fictional but then real African SS commando unit, are as "factual" as anything else to the math.

Champions of these systems like to say that we are standing at the precipice of a paradigm shift and a brave new world of "vibes-based computing". With that in mind, I invite you to remember that this is still how machine learning models think airplanes work as you fly home after this conference, suspended 30,000 feet above the ground, on the wings of "last-generation computing".

Cocktail napkin: Pacific Southwest Airlines (PSA) *1970s*
Gift of Albert R. Mueller, Jr.
Collection of SFO Museum ***2021.081.0057***

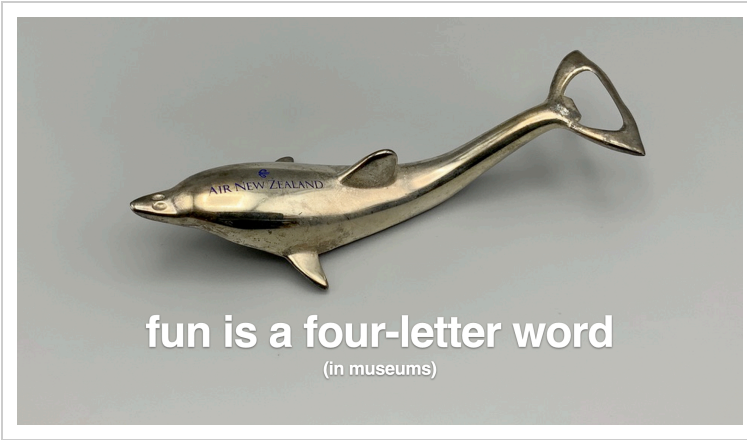
But, and this will be another sour pill, I want to suggest that the bigger problem the cultural heritage sector has with generative systems is not the long list of well-documented difficulties these systems have in producing quality, authoritative content.

The larger problem is that, taken as a whole, the cultural heritage sector is predisposed to dismiss the other, potentially useful, affordances suggested by these systems.

It is easy to focus on all the ways that generative systems get things wrong but it is important to recognize that there are possibilities in the spaces where, not without some oversight, they are both not right but also not wrong at the same time. Some of the names we use to describe this space are "playful" or "silly" or even "weird" and what generative systems allow, and what is novel, is the ability to not only synthesize these behaviours but to automate them at the scale of our collection.

What that suggests in turn is one approach, maybe crazy but not insane, for how we might address the absence of narrative in our collections. How we might give voice to all these things we keep but don't have the time, or the inclination, to speak on behalf of.

Efforts to marry museum collections and generative systems have been on-going for a while now. I wish those projects well but for all the reasons I've just finished describing I am skeptical how many of them will succeed. My concern is that they just won't be very much fun, or allowed to be fun, after the initial novelty wears off.



Bottle opener: Air New Zealand
Gift of Vincent Ma
Collection of SFO Museum ***2021.020.0768***

This is a problem because "fun" is still a four-letter word in most museums.

That is a deliberately provocative statement and this is another one of those slides we could spend all afternoon discussing. There's a lot to unpack here but chief among them is the idea that things which are "fun" or "playful" or worst of all "silly" are seen as undermining our authority as scholars and institutions.

They "damage our brand", we tell ourselves, and so we actively avoid them or anything that is suggestive of them. I happen to think everything about that idea is bonkers but I also think it is a proxy for an even larger tension which exists in all organizations, not just museums. Namely:

Who is allowed to speak on behalf of an organization, how does an organization allow an individual to speak outside of its governing

narrative and how does an organization do that while also signaling "we're still not going to do whatever that person is talking about" ?

We have not had much luck addressing these questions when it comes to human actors and now we face the burden of accounting for automated systems as well.

Playing cards: EVA Air, Hello Kitty *2007*
Gift of Vincent Ma
Collection of SFO Museum ***2021.020.0391***

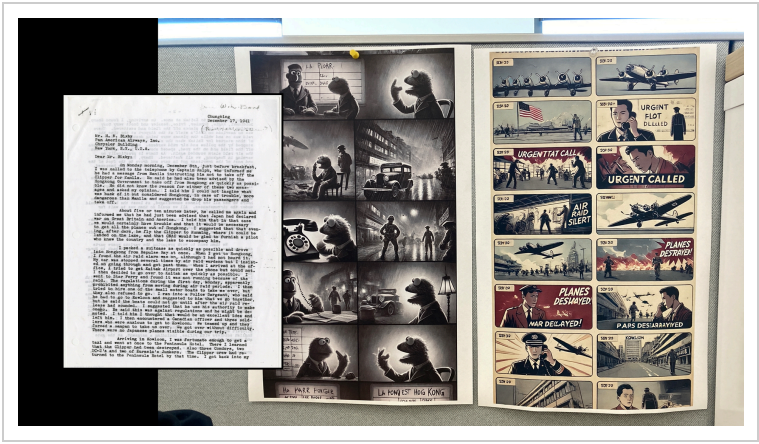
I started this talk by discussing the act of revisiting and the centrality of that act to the longevity of our collections. I'd like to finish this talk by suggesting that interpretation, or reinterpretation, and revisiting are two sides of the same coin.

I also want to suggest that a precondition for revisiting and reinterpretation is the ability to suspend disbelief in an idea long enough for it to be "not true" and "not false" at the same time. It is a space which may not *have* authority but it also doesn't necessarily *lack* authority either. That is, often, a very different space from scholarly "truthiness" but this is the space that generative systems open up.

Generative systems, we have seen, need supervision to prevent them from behaving badly. They arguably need even more help to keep them from getting trapped in a maze of incorrect assumptions and associations which they will assert with false confidence in an

attempt to feign authority. On the other hand, generative systems don’t need any help to just be weird.

Rather than trying to prevent generative systems from entering that maze of weird assumptions and associations what if instead we let them loose to map that territory as a way to deliberately create alternative narratives about the objects in our collections? In literature we sometimes call this form "magical realism".



Correspondence: William L. Bond to Harold Bixby [photocopy] *12/17/1941*
Collection of SFO Museum
Collection of SFO Museum ***2019.121.1272 a e***

These alternative narratives are not meant to replace or minimize our existing practices. They are meant to sit alongside them or, and this is important, to act as placeholders for those things in our collections *which continue to lack any kind of narrative at all*.

Alternative narratives can serve as a vehicle to reveal objects whose stories have been lost, neglected or forgotten. Second, they can demonstrate the idea that the strength and value of these stories, and the objects they describe, is in their ability to be retold and reimagined. In short to be revisited.

The image on the left is a photograph of the first page of a letter written by William Bond **describing the Japanese invasion of Hong Kong** `https://collection.sfomuseum.org/objects/1913795941/#1913802743` . On the right are two "storyboards" produced by a generative system after being asked to interpret the content of the

photo. The image on the right shows the stylistic choices the model made unprompted (note the weird airplane with six engines and no cockpit or tail). The image in the center is the same thing with some deliberately ridiculous instructions (French film and muppets). For everyone's benefit I have not included the storyboard rendered in the style of a Michael Bay action movie.

The point I am trying to make is that the sector's collective lack of enthusiasm for anything outside of the dominant, scholarly narratives predates generative systems. Generative systems just force us to admit these are blinders we wear. By virtue of being able to fashion narratives, even or especially fictional ones, at the scale of our collections generative systems also force us to confront the fact that we have been unable or unwilling to do the same on our own and that the cost, or at least the risk, of not addressing these problems is continued silence and eventual forgetting.

When I ask myself *Who else faces a similar dynamic and who has been able to not simply make peace with, but to embrace, the idea of alternative narratives crossing paths with their own work?* the answer I keep coming back to is: Comic books.

If you take the measure of something's cultural weight not by what it is but by how it encourages revisiting then it is hard to deny comic books, and comic book enthusiasts, their due. Sure, some of them are dressed as axe-wielding, spaceship-piloting cats but we are long past having to argue whether interesting and valuable stories can be told within the constraints of just about any medium, furry costumes included.

Let's be honest and admit that the cultural heritage sector would kill for the repeat engagement and patronage which comic books and comic book related events enjoy but its important to recognize that this relationship is not a one-way street.

What I mean is that, notwithstanding Disney's continued efforts to

maintain a stranglehold on how Mickey Mouse is depicted, there is generally a tolerance if not outright encouragement by comic book producers for their fans to fashion alternate, competing and even contradictory narratives around their work. That tells me two things:

One, it is a welcoming hand inviting the people who read comic books to participate in the narrative and world-building of those works. Second, it displays a confidence in the actual work itself. It says: Not only can these works stand alongside alternative interpretations but they are, in fact, buttressed by them.

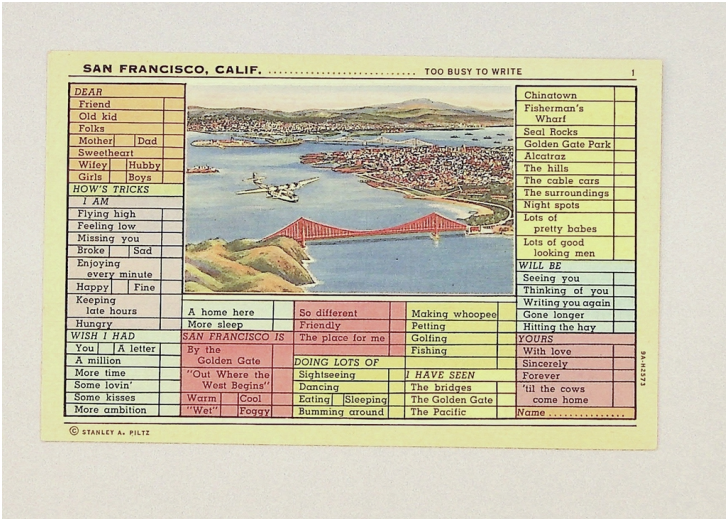
Thank you.

2024-10-26

things I have written about elsewhere #20241112

Updates to the SFO Museum ActivityPub services

Updates to the SFO Museum ActivityPub services



Postcard: Pan American Airways, Martin M-130, San Francisco, Calif.. Paper, ink. Gift of Jon E. Krupnick, SFO Museum Collection. ***2022.124.426***

This was **originally published on the SFO Museum Mills Field weblog** `https://millsfield.sfomuseum.org/blog/2024/11/12/activitypub/` , in November 2024.

Earlier this year, in the blog post **Holding Hands with the "Fediverse" – ActivityPub at SFO Museum** `https://millsfield.sfomuseum.org/blog/2024/03/12/activitypub/` , we announced the creation of **ActivityPub** `https://en.wikipedia.org/wiki/ActivityPub` accounts for all the objects in the **SFO Museum Aviation Collection** `https://collection.sfomuseum.org` , in addition to over **6,000 accounts for individual aircraft** `https://millsfield.sfomuseum.org/flights/airplane`

`s/` (identified by their **tail numbers** `https://en.wikipedia.org/wiki/Aircraft_registration`) that have flown in and out of SFO and a number of other event-based accounts.

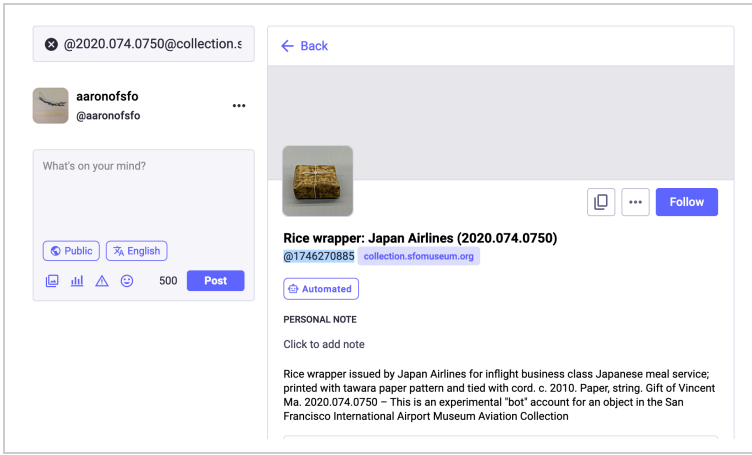
Since then we've largely left the system to "bake", broadcasting scheduled messages to all the people who have subscribed to these accounts. We deliberately chose to start with publish-only accounts as a way to keep things simple and prove that everything could work in a low-cost serverless environment without the need for a lot of babysitting.

Rice wrapper: Japan Airlines. Paper, string. Gift of Vincent Ma, SFO Museum Collection. ***2020.074.0750***

Today we are announcing a series of small, incremental additions to our ActivityPub-related services.

1. *Objects from the SFO Museum Aviation Collection (with ActivityPub accounts) have all been assigned aliases mapped to their accession numbers.*

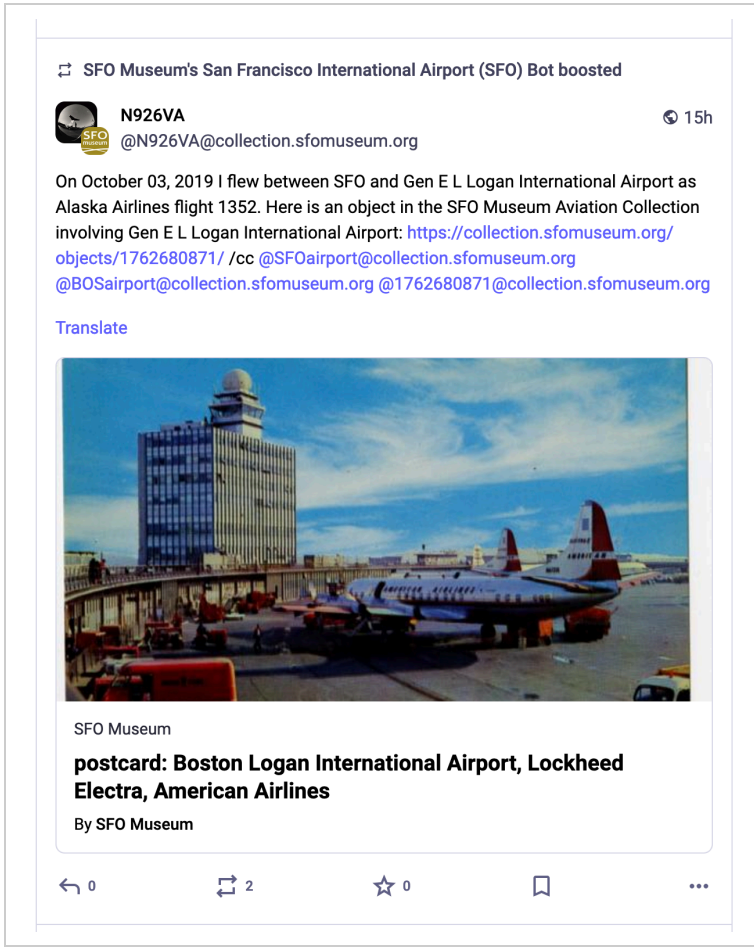
That means you can look up **this rice wrapper from Japan Airlines** `https://collection.sfomuseum.org/objects/1746270885/#1746682337` by searching for `@2020.074.0750@collection.sfomuseum.org` (rather than `@1746270885@collection.sfomuseum.org`).


@2020.074.0750@collection.s
aaronofsfo
@aaronofsfo
What's on your mind?
Public
English
500
Post
Back
Follow
Rice wrapper: Japan Airlines (2020.074.0750)
@1746270885
collection.sfomuseum.org
Automated
PERSONAL NOTE
Click to add note
Rice wrapper issued by Japan Airlines for inflight business class Japanese meal service; printed with tawara paper pattern and tied with cord. c. 2010. Paper, string. Gift of Vincent Ma. 2020.074.0750 – This is an experimental "bot" account for an object in the San Francisco International Airport Museum Aviation Collection

This should make it easier to follow objects (from the Aviation Collection) that you see on display in the terminals since every object's wall label will include its internal **accession number** `https://millsfield.sfomuseum.org/blog/2021/12/30/accession-numbers/` .

1. *Messages sent from aircraft (tail number) accounts will now call out, and send a copy of that message to, the*

airport and object related-accounts mentioned in the post and then those accounts will, in turn, "boost" the original post.


SFO Museum's San Francisco International Airport (SFO) Bot boosted
N926VA
@N926VA@collection.sfomuseum.org
15h
On October 03, 2019 I flew between SFO and Gen E L Logan International Airport as Alaska Airlines flight 1352. Here is an object in the SFO Museum Aviation Collection involving Gen E L Logan International Airport: https://collection.sfomuseum.org/objects/1762680871/ /cc @SFOairport@collection.sfomuseum.org @BOSairport@collection.sfomuseum.org @1762680871@collection.sfomuseum.org
Translate
SFO Museum
postcard: Boston Logan International Airport, Lockheed Electra, American Airlines
By SFO Museum
0
2
0

Since every post sent by an aircraft account involves the `@SFOairport@collection.sfomuseum.org` account

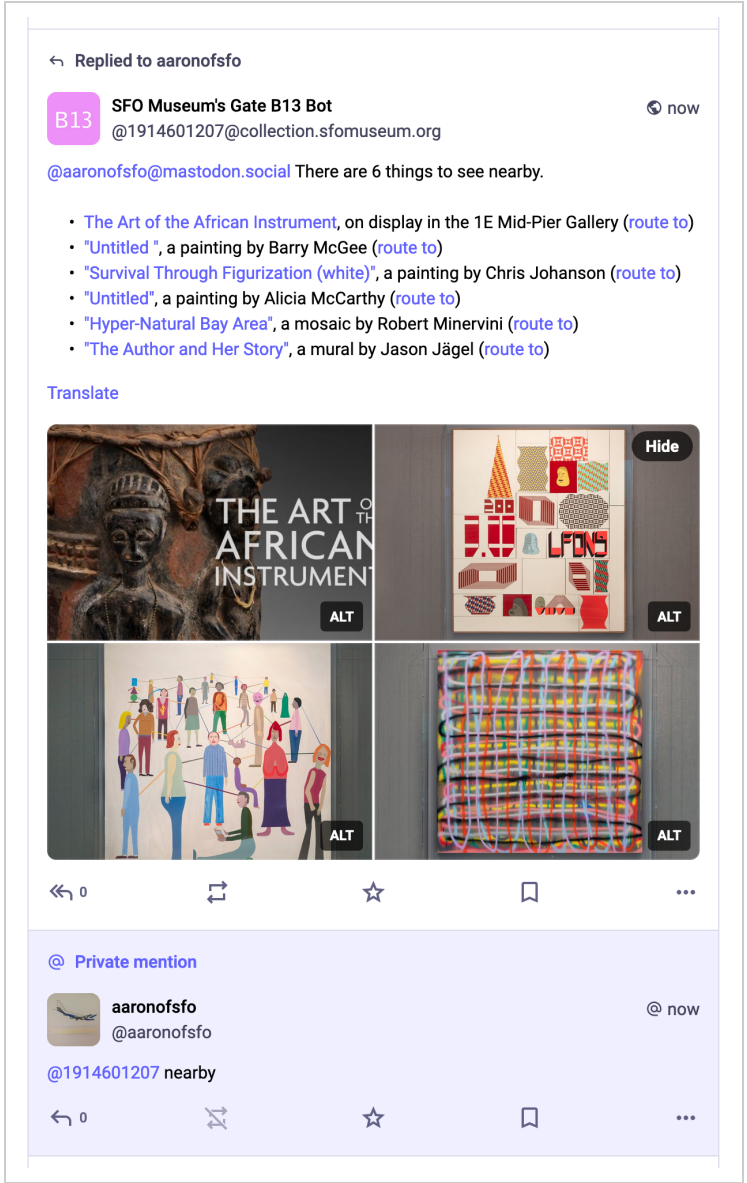
subscribing to it (@SFOairport) is an easy way to receive copies of all the aircraft posts and the objects they spotlight without subscribing to every airplane with an ActivityPub account. We've also created a new set of ActivityPub accounts:

1. ***Every gate in the SFO terminal complex*** `https://millsfield.sfomuseum.org/gates` *now has its own ActivityPub account.*

Like all the other accounts the primary identifier for each gate is their unique **Who's On First-style ID** `https://millsfield.sfomuseum.org/blog/tags/whosonfirst` but since those IDs can be hard to remember, and harder still to guess, each gate also has an alias in the form of `@gate` + GATE NUMBER + `@collection.sfomuseum.org`.

For example the `@1914601235@collection.sfomuseum.org`, the ActivityPub account for **Gate B27** `https://millsfield.sfomuseum.org/gates/1914601235/` , is aliased to `@gateB27@collection.sfomuseum.org`.

Gate accounts don't publish anything at regular intervals (yet) but if you send them a private message with the text "nearby" they will reply with the list of galleries, exhibitions and public art that are within walking distance of that gate's waiting area. The nearby functionality is derived from the **SFO Museum Wayfinding system** `https://millsfield.sfomuseum.org/blog/tags/wayfinding/` so each item listed also contains a link showing how to get there from the gate you're "talking" to.



The ability for SFO Museum ActivityPub accounts to both signal

and promote one another provides a mechanism where people can subscribe to a single (SFO Museum) account can keep up with everything that all the other (SFO Museum) accounts are talking about. The introduction of a message processing queue, currently just to handle nearby requests, opens up a whole world of possible interactions between people inside (and outside) the terminals and everything SFO Museum has to offer. These small incremental changes and small and incremental in keeping with our goal "to keep things simple and prove that everything can work in a low-cost serverless environment without the need for a lot of babysitting".

The rest of this blog post gets in to some of the technical details, and changes, that have made this work possible. If that's not interesting to you this is a good place to stop reading and we invite you to enjoy all the new things the SFO Museum ActivityPub accounts can do.

Appetizer container: United Airlines, business class. Wood. Anonymous gift, SFO Museum Collection. ***2020.074.0933***

As mentioned in the **original ActivityPub blog**

post `https://millsfield.sfomuseum.org/blog/2024/03/12/activitypub/` all of the code we are using to host the SFO Museum ActivityPub accounts is published as **an open source package** `https://github.com/sfomuseum/go-activitypub` written in **Go** `https://go.dev` This code base is still in its infancy so we have yet to make any promises about stability or backwards compatibility and the changes described in this blog post have resulted in a major refactoring of substantial parts of that code.

The first version of the code was written in haste to figure out how to use ActivityPub to perform the most basic of "social media" tasks: Following and unfollowing other accounts and publishing and then delivering messages from one account to all their followers. As a result substantial amounts the code were designed around the specifics of "posting" messages which is only one of many different kinds of "activities" that, as the name suggests, ActivityPub is designed to support.

This became clear when we wanted to automate the process of one SFO Museum account "boosting" another SFO Museum account and so the first major change to the code base has been to update all the infrastructure that schedules and delivers messages from one server to another, itself a substantial part of running an ActivityPub-based service, to handle generic activities rather than specific "posts". These changes reflect both a better appreciation of how things fit together and an ongoing critique of the complexities of implementing ActivityPub services from scratch.

Miniature model airplane: Austrian Airlines, McDonnell Douglas MD-81. Metal, paint, plastic, paper, ink. Gift of Vincent Ma, SFO Museum Collection. ***2021.020.0993***

Once you are able to wrap your head around some of the basics, like the fact that ActivityPub messages are essentially "envelopes" that deliver arbitrary “objects” with hints about what those objects are and how to process them (not unlike HTTP verbs), then everything starts to make more sense but the barriers to that understanding are still prohibitive. Hopefully the **sfomuseum/go-activitypub** `https://github.com/sfomuseum/go-activitypub` package has now been updated to reflect that understanding and make performing and processing new and novel ActivityPub activities easier and faster.

The other major addition to the code base is the introduction of a "message processing" queue for messages (or ActivityPub "notes") that are delivered to an account (hosted by a `go-activitypub`

server). This queue allows **for additional tasks related to a message to be performed outside of the initial server request** `https://github.com/sfomuseum/go-activitypub/tree/main/queue#message-processing-queues` and using code specific to the situation or goal. The message processing queue is how we implemented the "nearby" functionality described above and the `go-activitypub` package includes **an example program** `https://github.com/sfomuseum/go-activitypub/blob/main/app/message/process/example` demonstrating how message processing works and can be customized.

Photograph: San Francisco Airport, United Air Lines, Douglas DC-3. Photograph. Transfer from San Francisco International Airport, SFO Museum Collection. ***1997.52.050.003 a***

The goal for the **sfomuseum/go-activitypub** `#` package is to have

something that works for SFO Museum, first, but which can be used by others with a little bit of effort. Right now the code requires quite a lot of effort to use mostly because of the lack of comprehensive documentation (despite all the improvements made in this recent release). Now that the refactoring work necessary to implement all the changes described in this blog post has been completed we will let things "bake" again for a while and use that time to work on the documentation.

https://github.com/sfomuseum/go-activitypub `https://github.com/sfomuseum/go-activitypub`

2024-11-12

things I have written about elsewhere #20241205

Updates to the SFO Museum shoebox

Updates to the SFO Museum shoebox

Lunch box: China Clipper. Metal, paint. Gift of Jon E. Krupnick, SFO Museum Collection. ***2022.124.803***

This was **originally published on the SFO Museum Mills Field weblog** `https://millsfield.sfomuseum.org/blog/2024/12/05/shoebox/` , in December 2024.

Earlier this year we announced the **SFO Museum Aviation Collection Website**
Shoebox `https://millsfield.sfomuseum.org/blog/2024/01/22/shoebox/` . In the blog post introducing the shoebox I wrote:

> If that sounds like a simple bookmarking system limited to items in the SFO Museum collection that's because it is. For now. The shoebox and the introduction of user accounts are the first steps, the first building blocks, towards developing more sophisticated functionality and applications for the museum and its collection.

Today we are announcing two changes to the shoebox:

1. *The "shoebox" itself has been moved to the newly created* ***you.sfomuseum.org*** `https://you.sfomuseum.org` *website.*

2. *It is now possible to add* ***individual flights*** `https://millsfield.sfomuseum.org/flights/` *and* ***Instagram posts*** `https://millsfield.sfomuseum.org/instagram/` *, in addition to collection objects, to your shoebox.*

photograph: aerial view (Shanghai?)

Black and white photograph from collection of Pan American World Airways executive Harold M. Bixby, depicting aerial view of Shanghai (?); from CNAC (China National Aviation Corporation) activities in China.

1930s
2019.121.0118

You collected this object from the Aviation Collection on November 08, 2024.

UA278 (MCI-SFO)

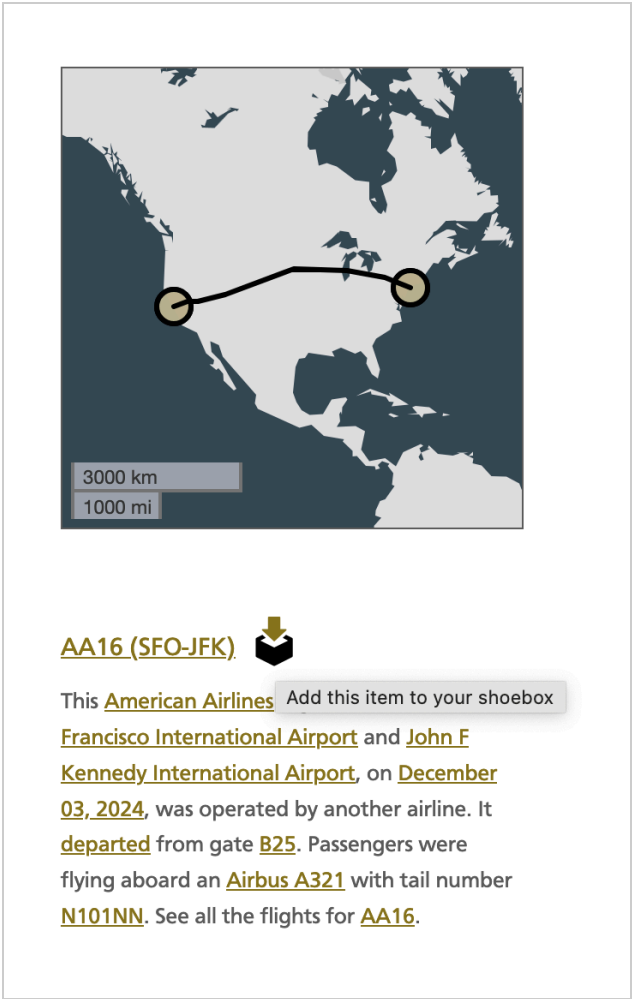
This was a United Airlines flight between Kansas City International Airport and San Francisco International Airport, on October 25, 2024. It arrived at gate F20. Passengers were flying aboard an Airbus A319 with tail number N893UA.

You collected this flight at SFO on October 31, 2024

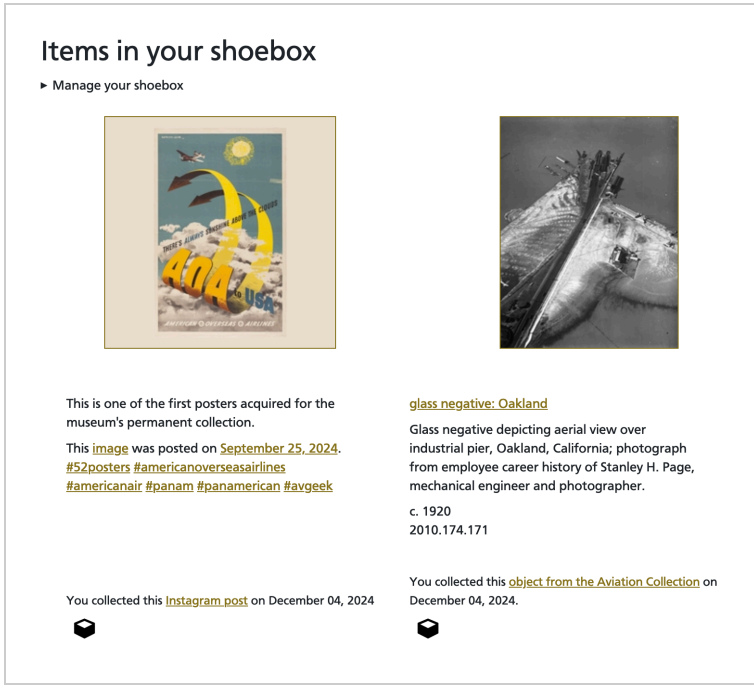
Collection objects can still be added to (or removed from) your shoebox from the **collection website** `https://collection.sfomuseum.org` itself. The only change is that the list of all the things you've collected now lives on the **you.sfomuseum.org** `https://you.sfomuseum.org` website. We made this change to reflect the idea that the shoebox is not specific to the Aviation Collection. Going forward the **you.sfomuseum.org** `https://you.sfomuseum.org` website is where all the things that you've saved, or created, involving SFO Museum will live.

For example, the ability to save individual **flights in and out of SFO** `https://millsfield.sfomuseum.org/flights` and **Instagram**

posts `https://millsfield.sfomuseum.org/instagram` from the **Mills Field** `https://millsfield.sfomuseum.org` website. Saving these items works exactly the same way saving collection objects works: Simply click the shoebox icon next to the item you want to save and it will be added to your shoebox.


3000 km
1000 mi
AA16 (SFO-JFK)
Add this item to your shoebox
This American Airlines
Francisco International Airport and John F
Kennedy International Airport, on December
03, 2024, was operated by another airline. It
departed from gate B25. Passengers were
flying aboard an Airbus A321 with tail number
N101NN. See all the flights for AA16.

The goal is to slowly (and then quickly) add the ability to save any of the "first class actors" involved with the SFO Museum websites to your shoebox: Twitter posts, individual terminals and gates, airlines, aircraft and airports. Anything, really. Flights and Instagram posts are just what we've started with and what we're using to make sure everything works.

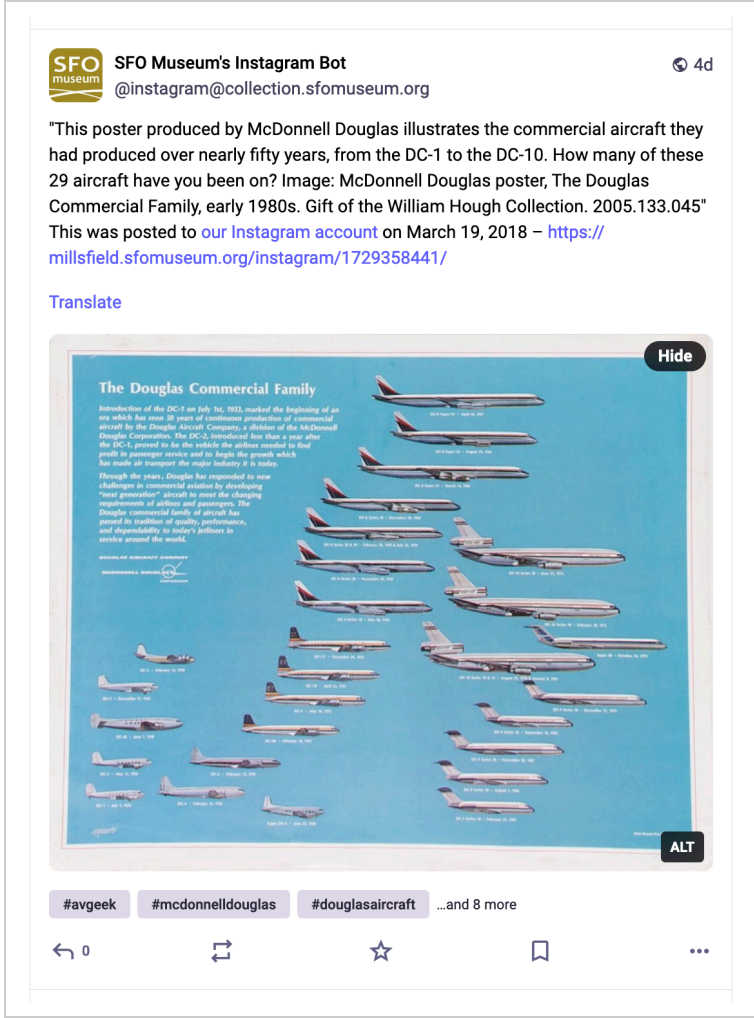

Items in your shoebox
▸ Manage your shoebox
This is one of the first posters acquired for the museum's permanent collection.
This image was posted on September 25, 2024.
#52posters #americanoverseasairlines #americanair #panam #panamerican #avgeek
You collected this Instagram post on December 04, 2024
glass negative: Oakland
Glass negative depicting aerial view over industrial pier, Oakland, California; photograph from employee career history of Stanley H. Page, mechanical engineer and photographer.
c. 1920
2010.174.171
You collected this object from the Aviation Collection on December 04, 2024.

For the time being, shoebox items are still only viewable by the person who added them. You can't see my shoebox items and I can't see yours. Eventually (soon, I hope) you will be able to organize shoebox items in to named "sets" and once that is possible we'll add the ability to make those sets and the objects contained in them public so you can share them with others.

Luggage label: Panair do Brasil. Paper, ink, adhesive. Gift of the Captain John B. Russell Family, SFO Museum Collection. ***2012.149.1234***

Speaking of Instagram last week we created a new `@instagram@collection.sfomuseum.org` **ActivityPub** `https://millsfield.sfomuseum.org/blog/tags/activitypub` account. Every day it will randomly republish one of the over 5,000 posts that SFO Museum has published to Instagram over the years which is a great way to see the depth and the breadth of the museum's programming and **our social media manager Bao's**

work `https://millsfield.sfomuseum.org/blog/2019/03/06/twitter/` sharing those efforts (and save them to your shoebox).


SFO museum
SFO Museum's Instagram Bot
@instagram@collection.sfomuseum.org
4d
"This poster produced by McDonnell Douglas illustrates the commercial aircraft they had produced over nearly fifty years, from the DC-1 to the DC-10. How many of these 29 aircraft have you been on? Image: McDonnell Douglas poster, The Douglas Commercial Family, early 1980s. Gift of the William Hough Collection. 2005.133.045" This was posted to our Instagram account on March 19, 2018 – https://millsfield.sfomuseum.org/instagram/1729358441/
Translate
Hide
The Douglas Commercial Family
ALT
#avgeek
#mcdonnelldouglas
#douglasaircraft
...and 8 more
0

Note: The launch of this account happily coincides with the recent

Threads announcement to allow the ***following of accounts on other "Fediverse" servers*** `https://www.theverge.com/2024/12/4/24313229/threads-follow-fediverse-mastodon-users-post-notifications` *from the Threads application. It's still not as obvious as it should be, even to people like me who live and breathe this stuff. Which is to say that it's not clear to me whether its possible to find the* ***SFO Museum ActivityPub accounts*** `https://millsfield.sfomuseum.org/blog/tags/activitypub` *accounts from the Threads app yet but hopefully that will happen soon.*

2024-12-05